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                    85                   90                   95
Lys Gly Glu Arg Ile Leu Pro Pro Val Val Gln Ser Ser Pro Arg Val
            100                  105                  110
Arg Gly Pro Pro Arg Arg Ser Arg Thr Pro Gly
        115                  120
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<210> 5067
<211> 2023
<212> DNA
<213> Homo sapiens

<400> 5067
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120
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240
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300
ggtcatccca tgggtggccc accacaagct tggggccatc caatgcaagg tggaccccag
360
ccatggggtc acccttcagg gccaatgcaa ggggtacctc gaggtagcag tatgggagtc
420
cgcaatagcc cccaggctct gaggcggaca gcttctgggg gacggacaga gcagggcatg
480
agcagaagca cgagtgtcac ttcacaaata tccaatgggt cacacatgtc ttatacataa
540
cttaataatt gagagtggca attccgctgg agctgtctgc caaaagaaac tgcctacaga
600
catcatcaca gcagcctcct cacttgggta ctacagtgtg gaagctgagt gcatatggta
660
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720
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780
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840
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1080
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1140
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1200
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1260
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gcttgtgagt gatttttgtc cattcaattg tgccttcttt gtattatgat aagatggggg
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1380
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1440
agagtgagga gatgaagctt acgtgtcctg acgttttgtt gcttatactg tgatatctca
1500
tcctagctaa gctctataat gcccaagacc ccaaacagta ctttttacttt gtttgtacaa
1560
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1620
aattgccatc tattgaaatt ctcgtcacac tacatagaca taattgttat ctccttttgg
1680
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1740
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1800
tgtagatttt gctgcatgtg caggtcctct attttaatt gctgttttcg ttgctgcagt
1860
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1920
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1980
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2023

<210> 5068
<211> 179
<212> PRT
<213> Homo sapiens

<400> 5068
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Ser Leu Arg Arg Ala Leu Leu Glu Gln Lys Ile Glu Glu Glu Met Leu
            20   25   30
Ala Leu Gln Asn Glu Arg Thr Glu Arg Ile Arg Ser Leu Leu Glu Arg
        35   40   45
Gln Ala Arg Glu Ile Glu Ala Phe Asp Ser Glu Ser Met Arg Leu Gly
    50   55   60
Phe Ser Asn Met Val Leu Ser Asn Leu Ser Pro Glu Ala Phe Ser His
65   70   75   80
Ser Tyr Pro Gly Ala Ser Gly Trp Ser His Asn Pro Thr Gly Gly Pro
                85   90   95
Gly Pro His Trp Gly His Pro Met Gly Gly Pro Pro Gln Ala Trp Gly
            100   105   110
His Pro Met Gln Gly Gly Pro Gln Pro Trp Gly His Pro Ser Gly Pro
        115   120   125
Met Gln Gly Val Pro Arg Gly Ser Ser Met Gly Val Arg Asn Ser Pro
    130   135   140
Gln Ala Leu Arg Arg Thr Ala Ser Gly Gly Arg Thr Glu Gln Gly Met
145   150   155   160
Ser Arg Ser Thr Ser Val Thr Ser Gln Ile Ser Asn Gly Ser His Met

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                    165                170                175
Ser Tyr Thr


<210> 5069
<211> 3655
<212> DNA
<213> Homo sapiens

<400> 5069
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120
ggctcgccgc aggagaagga ttcgccctcg acctcgcggt cgggcgggtc cagccggctg
180
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240
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300
cagcggaagt acaggcgcta ctcgcggtca tactcgcgga gccggtcgcg atcccgcagc
360
cgccgttacc gagagaggcg ctacgggttc accaggagat actaccggtc tccttcgcgg
420
taccggtccc ggtcccgtag caggtcgcgc tctcggggaa ggtcgtactg cggaagggcg
480
tacgcgatcg cgcggggaca gcgctactac ggctttggtc gcacagtgta cccggaggag
540
cacagcagat ggagggacag atccaggacg aggtcgcgga gcagaacccc ctttcgctta
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720
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780
ttagggttaa aggtcaactg gaagttaaat ggctcaggat gtagggaact ttttttccta
840
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900
aagttaacgt gattgggaag aacaatatca aaacacgcct tcttttagtt gacattatta
960
ctgaataaaa ttggattgtc gagtatccta agtgacctag gaggccgggc gcggcggctc
1020
acctctgtaa tcccagcact tggggaggcg gaggcggagg cgggtgggtc acttgaggcc
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1140
ccggggggtgg cggtagaaat acactttagt agtgtatcag tattggttca gtggttgtga
1200
taattatata aagaatctac agcagaaaaa cctggttttc agaaatacat ctttgaagag
1260
aaagcaaaat aatatcacta ttagctagag aaaattaagt acaacaaaaa gacaaaataa
1320
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taggacgctc aggcctttag tcaagaaaac aaaactaatt gttgagataa tttaagaatt
1380
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1440
gttgtccctc tgttcactcg ggggtttggt gccaggatgc atatggaacc ctcgcgcaca
1500
cttggggttt acagtctctc aaacactgtg gtactttcta tctgcattta gtaaggggga
1560
gaaaaacaa gtataaagtg gaccagcgca gctactagtg ttcaagggca accttagttt
1620
acctattata aaacaagtga cttaatatat ttaataccac aaaataacat atttattgtg
1680
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2100
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2160
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2220
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2280
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2340
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2460
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2580
gtgatgaaga aaatctgttg gtaattgata catgggttca agtgtcagag gtttaatttg
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aagtttatgt tcacacactg aaaacttagt ttttttgttg gtagatccat gtgcatgcta
2700
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2760
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2820
atattccaga tgttttgaga gattacagaa gaggaggcct gcttcacttg cagataagtt
2880
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2940
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3060
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3180
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3300
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3360
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3420
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3655

<210> 5070
<211> 255
<212> PRT
<213> Homo sapiens

<400> 5070
Met Ser Asn Tyr Ala Asn Asp Met Trp Pro Gly Ser Pro Gln Glu Lys
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Asp Ser Pro Ser Thr Ser Arg Ser Gly Gly Ser Ser Arg Leu Ser Ser
            20   25   30
Arg Ser Arg Ser Arg Ser Phe Ser Arg Ser Ser Arg Ser His Ser Arg
            35   40   45
Val Ser Ser Arg Phe Ser Ser Arg Ser Arg Arg Ser Lys Ser Arg Ser
        50   55   60
Arg Ser Arg Arg Arg His Gln Arg Lys Tyr Arg Arg Tyr Ser Arg Ser
65   70   75   80
Tyr Ser Arg Ser Arg Ser Arg Ser Arg Arg Tyr Arg Glu Arg
            85   90   95
Arg Tyr Gly Phe Thr Arg Arg Tyr Tyr Arg Ser Pro Ser Arg Tyr Arg
            100   105   110
Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg Gly Arg Ser Tyr Cys Gly
            115   120   125
Arg Ala Tyr Ala Ile Ala Arg Gly Gln Arg Tyr Tyr Gly Phe Gly Arg
        130   135   140
Thr Val Tyr Pro Glu Glu His Ser Arg Trp Arg Asp Arg Ser Arg Thr
145   150   155   160
Arg Ser Arg Ser Arg Thr Pro Phe Arg Leu Ser Glu Lys Gly Gly Trp
            165   170   175
Val Ile Tyr Leu Ser Ile Cys Gly Asn Val Trp Trp Gln Tyr Met Ser

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                 180                    185                    190
Arg Leu Gly Asn Gln Arg Cys Cys Val Val Ser Ile Leu Val Pro Leu
             195                    200                    205
Val Pro Glu Ile Phe Leu Glu Glu Arg Gly Arg Thr Leu Pro Val Phe
         210                    215                    220
Lys Trp Thr Ala Phe Ser Leu Gly Leu Lys Val Asn Trp Lys Leu Asn
225                    230                    235                    240
Gly Ser Gly Cys Arg Glu Leu Phe Phe Leu Leu Ala Asp Cys Ser
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<210> 5071
<211> 2196
<212> DNA
<213> Homo sapiens
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<400> 5071
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cacagctcag gcccttcag gccatcagca ccaagggacc ttgtcccaca atccccaacc
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240
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360
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1020
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1140
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2040
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2100
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2160
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2196

<210> 5072
<211> 76
<212> PRT
<213> Homo sapiens

<400> 5072
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Gly Ser Leu Gln Pro Pro Pro Arg Phe Lys Gln Phe Ser His Leu
                20   25   30
Ser Leu Gln Ser Ser Trp Asp Tyr Arg His Ala Gln Pro Cys Pro Ala
            35   40   45
Asn Phe Cys Asn Phe Ser Arg Asp Gly Phe Ser Leu Ser Arg Asp Gly
        50   55   60
Cys Leu Pro Gly Trp Ser Arg Thr Pro Asp Leu Arg
65   70   75

<210> 5073
<211> 1712
<212> DNA
<213> Homo sapiens

<400> 5073
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120
aagtttggga aggaactaac attcaccact gtactgagtg accaacaggt ggtggagctg
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1020
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1080
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1440

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1680
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<210> 5074
<211> 240
<212> PRT
<213> Homo sapiens

<400> 5074
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                20                  25                  30
Met Asp Lys Glu Thr Phe Glu Phe Lys Phe Gly Lys Glu Leu Thr Phe
            35                  40                  45
Thr Thr Val Leu Ser Asp Gln Gln Val Val Glu Leu Ile Pro Gly Gly
    50                  55                  60
Ala Gly Ile Val Val Gly Tyr Gly Asp Arg Ser Arg Phe Ile Gln Leu
65                  70                  75                  80
Val Gln Lys Ala Arg Leu Glu Glu Ser Lys Glu Gln Val Ala Ala Met
                85                  90                  95
Gln Ala Gly Leu Leu Lys Val Val Pro Gln Ala Val Leu Asp Leu Leu
            100                 105                 110
Thr Trp Gln Glu Leu Glu Lys Lys Val Cys Gly Asp Pro Glu Val Thr
        115                 120                 125
Val Asp Ala Leu Arg Lys Leu Thr Arg Phe Glu Asp Phe Glu Pro Ser
    130                 135                 140
Asp Ser Arg Val Gln Tyr Phe Trp Glu Ala Leu Asn Asn Phe Thr Asn
145                 150                 155                 160
Glu Asp Arg Ser Arg Phe Leu Arg Phe Val Thr Gly Arg Ser Arg Leu
                165                 170                 175
Pro Ala Arg Xaa Ser Thr Ser Thr Gln Thr Ser Trp Ala Thr Arg Pro
            180                 185                 190
Xaa Asp Ala Leu Pro Glu Ser Ser Thr Cys Ser Ser Thr Leu Phe Leu
        195                 200                 205
Pro His Tyr Ala Ser Ala Lys Val Cys Glu Glu Lys Leu Arg Tyr Ala
    210                 215                 220
Ala Tyr Asn Cys Val Ala Ile Asp Thr Asp Met Ser Pro Trp Glu Glu
225                 230                 235                 240
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<210> 5075
<211> 444
<212> DNA
<213> Homo sapiens

<400> 5075

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120
ttactaaaaa gaataaacag tgctcggtga atggtgagag gaccagagag gaaatgggaa
180
taagtaatag gcatgtggcc agcagaaaaa ggagccaata tataagaaag caacaagtaa
240
actgctcccc tcgatggcag tgggaagcct gctgggatgg tgggggatca ggaaacttct
300
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420
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444

<210> 5076
<211> 90
<212> PRT
<213> Homo sapiens

<400> 5076
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Ile Arg Lys Gln Gln Val Asn Cys Ser Pro Arg Trp Gln Trp Glu Ala
            20   25   30
Cys Trp Asp Gly Gly Gly Ser Gly Asn Phe Ser Ser Pro Gly Thr Leu
        35   40   45
Arg Glu Thr Glu Val Ile Thr Ala Val Leu Glu Leu Gly Arg Gly Gly
        50   55   60
Asp Gln Val Thr Ala Asp Gln Lys Ser Leu Asn Ile Asn Ala Met Glu
65   70   75   80
Arg Glu Leu Ala Leu Ser Leu Arg Val Ala
                85   90

<210> 5077
<211> 2352
<212> DNA
<213> Homo sapiens

<400> 5077
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120
cagcagatca tgtttgtctg attattaaga attctttttt gtaacattaa ctctctaaag
180
acaatcaatg gactgacatc actgctacaa cacaggttgc taactgagcc tctgatcttc
240
agccacatct tgattttcct aataatgagt aaatactgcc tggctaaaat gctgcaaagt
300
cttgatgaga gaaagcatca acagatcaag caaagccatg aaaattatga agcaagctag
360

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agctgattat tagaattagt aaaaatgatt aagagaggat gacacaacca tacgggattt
420
gtatattctg attgacactc ttttggcagc gaattgggtc agcacctcgg gcagggaacc
480
aaaactgagt gaaaactgct cttttтcctc ctagctcagg ccaccaacgt cacagccggg
540
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600
gaaaccctac cgacactacc ccggaagggc ctggcctccg aggtgtctgc agcgtgctgc
660
cttcgccggg gcttttcaga atgggccggg gcctcggggg tcttcatccc caaggaagcc
720
tcttgatttt tggcaccgcc tttgtttttg ggccggaagc cgttgtgcgg ctgtcttctg
780
tgttcgtggc ggctgttgcc ctttcccagt ggctcggctt cattcccact gccctgcgac
840
ttggcaggcc catttagcct gttgttatga tactgtggat taaatctccg tctttggtta
900
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960
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1020
gattttcggg aaaagttact ctgtttccca gaggttgctg cgtgcgcatt cagcagaggc
1080
agcagggagc tgcagggagt tcttgaggaa tagttgttct ttggatgtgt aatttctccg
1140
cagagcatga tttgggcctt cagctgttcg atgtcacagg aaaaccgggc agctttcccg
1200
agctcctcgt catatttacg ctcgctgaca aagtgcttaa tttctgccct gagttcggcc
1260
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1320
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1380
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1440
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1500
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1560
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1620
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1680
gttgttccat gtataggttt ggggttccca tctaaggata gtttctgttg cagtagtctg
1740
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1800
tcacgaggga taagggctgg ttttтcgtta gcagaatctg tggacgagct gtccttctcg
1860
cagccattca tggggccgtt ttgaatctgt ggtggctgcg gctgcagggg ccctgcctca
1920
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1980
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4259

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tttctttat tgttcttctt ttttcctgtc atattccatt cttttagaac ttgaattgca
2040
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2100
aggactattt cattattgct tttgttggga acaactgatc taactgcata gatctttttcc
2160
ttgacattca catgagtatt gagttcagcc atcttgcttc tagcggaata ggccctggga
2220
atccacagca atgttcctga aagcagcctg gtttctgaag agctctgaaa aatcaggcgc
2280
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2340
cgcctcctct gc
2352


<210> 5078
<211> 558
<212> PRT
<213> Homo sapiens

<400> 5078
Met Ala Glu Leu Asn Thr His Val Asn Val Lys Glu Lys Ile Tyr Ala
 1               5                  10                  15
Val Arg Ser Val Val Pro Asn Lys Ser Asn Asn Glu Ile Val Leu Val
                20                  25                  30
Leu Gln Gln Phe Asp Phe Asn Val Asp Lys Ala Val Gln Ala Phe Val
            35                  40                  45
Asp Gly Ser Ala Ile Gln Val Leu Lys Glu Trp Asn Met Thr Gly Lys
        50                  55                  60
Lys Lys Asn Asn Lys Arg Lys Arg Ser Lys Ser Lys Gln His Gln Gly
65                  70                  75                  80
Asn Lys Asp Ala Lys Asp Lys Val Glu Arg Pro Glu Ala Gly Pro Leu
                85                  90                  95
Gln Pro Gln Pro Pro Gln Ile Gln Asn Gly Pro Met Asn Gly Cys Glu
            100                 105                 110
Lys Asp Ser Ser Ser Thr Asp Ser Ala Asn Glu Lys Pro Ala Leu Ile
        115                 120                 125
Pro Arg Glu Lys Lys Ile Ser Ile Leu Glu Glu Pro Ser Lys Ala Leu
        130                 135                 140
Arg Gly Val Thr Glu Gly Asn Arg Leu Leu Gln Gln Lys Leu Ser Leu
145                 150                 155                 160
Asp Gly Asn Pro Lys Pro Ile His Gly Thr Thr Glu Arg Ser Asp Gly
                165                 170                 175
Leu Gln Trp Ser Ala Glu Gln Pro Cys Asn Pro Ser Lys Pro Lys Ala
            180                 185                 190
Lys Thr Ser Pro Val Lys Ser Asn Thr Pro Ala Ala His Leu Glu Ile
        195                 200                 205
Lys Pro Asp Glu Leu Ala Lys Lys Arg Gly Pro Asn Ile Glu Lys Ser
        210                 215                 220
Val Lys Asp Leu Gln Arg Cys Thr Val Ser Leu Thr Arg Tyr Arg Val
225                 230                 235                 240
Met Ile Lys Glu Glu Val Asp Ser Ser Val Lys Lys Ile Lys Ala Ala
                245                 250                 255
Phe Ala Glu Leu His Asn Cys Ile Ile Asp Lys Glu Val Ser Leu Met
```

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               260                   265                   270
Ala Glu Met Asp Lys Val Lys Glu Glu Ala Met Glu Ile Leu Thr Ala
           275                   280                   285
Arg Gln Lys Lys Ala Glu Glu Leu Lys Arg Leu Thr Asp Leu Ala Ser
       290                   295                   300
Gln Met Ala Glu Met Gln Leu Ala Glu Leu Arg Ala Glu Ile Lys His
305                   310                   315                   320
Phe Val Ser Glu Arg Lys Tyr Asp Glu Glu Leu Gly Lys Ala Ala Arg
               325                   330                   335
Phe Ser Cys Asp Ile Glu Gln Leu Lys Ala Gln Ile Met Leu Cys Gly
           340                   345                   350
Glu Ile Thr His Pro Lys Asn Asn Tyr Ser Ser Arg Thr Pro Cys Ser
           355                   360                   365
Ser Leu Leu Pro Leu Leu Asn Ala His Ala Ala Thr Ser Gly Lys Gln
       370                   375                   380
Ser Asn Phe Ser Arg Lys Ser Ser Thr His Asn Lys Pro Ser Glu Gly
385                   390                   395                   400
Lys Ala Ala Asn Pro Lys Met Val Ser Ser Leu Pro Ser Thr Ala Asp
               405                   410                   415
Pro Ser His Gln Thr Met Pro Ala Asn Lys Gln Asn Gly Ser Ser Asn
               420                   425                   430
Gln Arg Arg Arg Phe Asn Pro Gln Tyr His Asn Asn Arg Leu Asn Gly
           435                   440                   445
Pro Ala Lys Ser Gln Gly Ser Gly Asn Glu Ala Glu Pro Leu Gly Lys
       450                   455                   460
Gly Asn Ser Arg His Glu His Arg Arg Gln Pro His Asn Gly Phe Arg
465                   470                   475                   480
Pro Lys Asn Lys Gly Gly Ala Lys Asn Gln Glu Ala Ser Leu Gly Met
               485                   490                   495
Lys Thr Pro Glu Ala Pro Ala His Ser Glu Lys Pro Arg Arg Arg Gln
           500                   505                   510
His Ala Ala Asp Thr Ser Glu Ala Arg Pro Phe Arg Gly Ser Val Gly
           515                   520                   525
Arg Val Ser Gln Cys Asn Leu Cys Pro Thr Arg Ile Glu Val Ser Thr
       530                   535                   540
Asp Ala Ala Val Leu Ser Val Pro Ala Val Thr Leu Val Ala
545                   550                   555
```

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<210> 5079
<211> 1338
<212> DNA
<213> Homo sapiens

<400> 5079
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cggaccccgc tggagaggaa cttctccgtt ggctgatttc atcaccaccc attcccgatt
120
ccacgtttcc tttaagcggg gctggcggag ccgcaaggcg gcaaggaact ggattgcgat
180
tggtcagcac gtgcctcggt cggcggtaca attggctgag gcgctgggcc ttgggaagca
240
ttccccgacg ggattggtcg tcgctctcgc agagcccgcc tcccgcagta caagcggccc
300
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ccgggtcggg tgggaggagg ggactccggg aggaggaaca tggcggtggc ggacctcgct
360
ctcattcctg atgtggacat cgactccgac ggcgtcttca agtatgtgct gatccgagtc
420
cactcggctc cccgctccgg ggctccggct gcagagagca aggagatcgt gcgcggctac
480
aagtgggctg agtaccatgc ggacatctac gacaaagtgt cgggcgacat gcagaagcaa
540
ggctgcgact gtgagtgtct gggcggcggg cgcatctccc accagagtca ggacaagaag
600
attcacgtgt acggctattc catggtgagc cgcagccccg tcccgccctg ccggaggccc
660
cagtaccagc ttcgaggccc acctgagcct gctgccctga cccgtggccc cagctgagca
720
cgcaggcttc ctggggttct cccagggtcg gcggcagagc cctccctcca gggcccattg
780
tgttcctgca ttcccccatg gagcacacgc cagacctgag gggtgggacg dacacccca
840
ggcatggccg gctgtctcct ctccctgcct tgggaggcct tgctgggctc tagctgtcct
900
ccagcacttt gggccctggg cccccagagg cagtcagtac ctgggtggag ctcagagtcc
960
ccacctgtgc tcttcacaaa aaccaccagc agatgagacc cacgtgcgtc cctctgggcg
1020
cctcaggccc caggatccac catcaaggcc tatggtcctg cccagcacgc catttcaact
1080
gagaaaatca aagccaagta ccccgactac gaggtcacct gggctaacga cggctactga
1140
gcactcccag cccgggggcct gctgcctcca gcagccactt cagagccccc gcctttgcct
1200
gcactcctct tgcagggctg gccctgcctg ctcctgcggc agcctctggt gacgtgctgt
1260
ccaccaggcc ttggagacag gctagcctgg ccacagaatt aaacgtgttg ccacaccaaa
1320
aaaaaaaaaa aaaaaaaa
1338

<210> 5080
<211> 165
<212> PRT
<213> Homo sapiens

<400> 5080
Gly Ala Gly Pro Trp Glu Ala Phe Pro Asp Gly Ile Gly Arg Arg Ser
1   5   10   15
Arg Arg Ala Arg Leu Pro Gln Tyr Lys Arg Pro Pro Gly Arg Val Gly
            20   25   30
Gly Gly Asp Ser Gly Arg Arg Asn Met Ala Val Ala Asp Leu Ala Leu
            35   40   45
Ile Pro Asp Val Asp Ile Asp Ser Asp Gly Val Phe Lys Tyr Val Leu
        50   55   60
Ile Arg Val His Ser Ala Pro Arg Ser Gly Ala Pro Ala Ala Glu Ser
65   70   75   80
Lys Glu Ile Val Arg Gly Tyr Lys Trp Ala Glu Tyr His Ala Asp Ile

4262

```
                         85                        90                        95
Tyr Asp Lys Val Ser Gly Asp Met Gln Lys Gln Gly Cys Asp Cys Glu
            100                       105                       110
Cys Leu Gly Gly Gly Arg Ile Ser His Gln Ser Gln Asp Lys Lys Ile
        115                       120                       125
His Val Tyr Gly Tyr Ser Met Val Ser Arg Ser Pro Val Pro Pro Cys
    130                       135                       140
Arg Arg Pro Gln Tyr Gln Leu Arg Gly Pro Pro Glu Pro Ala Ala Leu
145                       150                       155                   160
Thr Arg Gly Pro Ser
                165
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<210> 5081
<211> 561
<212> DNA
<213> Homo sapiens

<400> 5081

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ggctgcttga agacctcgcg acctgtgtca gcagagccgc cctgcaccac catgtgcatc
120
atcttcttta agtttgatcc tcgccctgtt tccaaaaacg cgtacaggta accccctcgc
180
tctgcatctg ctgcgccctg cagggtcctg ggtgcccagc cagttctcat gccacccaag
240
ctgctgtgtg caggaaggtg tgtgggccag gacggggctg cacaggcctg gcactgccct
300
ccaggacagg gtcactcagt gtgggatgct gtcagaatgc ctctcggggc ggggactcca
360
gtcaatgtac aaagacgtga agactcagcc acagaaggca gccacaggct catcttggca
420
gccaacaggg atgaattcta cagccgaccc tccaagttag ctgacttctg ggggaacaac
480
aacgagatcc tcagtgggct ggacatggag gaaggcaagg aaggaggcac atggctgggc
540
atcagcacac gtggcaagct g
561
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<210> 5082
<211> 111
<212> PRT
<213> Homo sapiens

<400> 5082

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Met Pro Pro Lys Leu Leu Cys Ala Gly Arg Cys Val Gly Gln Asp Gly
1                 5                    10                        15
Ala Ala Gln Ala Trp His Cys Pro Pro Gly Gln Gly His Ser Val Trp
                20                    25                        30
Asp Ala Val Arg Met Pro Leu Gly Ala Gly Thr Pro Val Asn Val Gln
            35                    40                        45
Arg Arg Glu Asp Ser Ala Thr Glu Gly Ser His Arg Leu Ile Leu Ala
        50                    55                        60
Ala Asn Arg Asp Glu Phe Tyr Ser Arg Pro Ser Lys Leu Ala Asp Phe
```

```
65                    70                    75                    80
Trp Gly Asn Asn Asn Glu Ile Leu Ser Gly Leu Asp Met Glu Glu Gly
                  85                    90                    95
Lys Glu Gly Gly Thr Trp Leu Gly Ile Ser Thr Arg Gly Lys Leu
              100                   105                   110
```

<210> 5083
<211> 1856
<212> DNA
<213> Homo sapiens

<400> 5083
nnggccacta ggcacgggac agagcagtcg gtgacaggac agagcagtcg gtgacgggac
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acagtggttg gtgacgggac agagcggtcg gtgacagcct caagggcttc agcaccgcgc
120
ccatggcaga gccagaccga ctcagattca gactctgagg gaggagccgc tggtggagaa
180
gcagacatgg acttcctgcg gaacttattc tcccagacgc tcagcctggg cagccagaag
240
gagcgtctgc tggacgagct gaccttggaa ggggtggccc ggtacatgca gagcgaacgc
300
tgtcgcagag tcatctgttt ggtgggagct ggaatctcca catccgcagg catccccgac
360
tttcgctctc catccaccgg cctctatgac aacctagaga agtaccatct tccctaccca
420
gaggccatct ttgagatcag ctatttcaag aaacatccgg aacccttctt cgccctcgcc
480
aaggaactct atcctgggca gttcaagcca accatctgtc actacttcat gcgcctgctg
540
aaggacaagg ggctactcct gcgctgctac acgcagaaca tagataccct ggagcgaata
600
gccgggctgg aacaggagga cttggtggag gcgcacggca ccttctacac atcacactgc
660
gtcagcgcca gctgccggca cgaatacccg ctaagctgga tgaaagagaa gatcttctct
720
gaggtgacgc ccaagtgtga agactgtcag agcctggtga gcctgatat cgtctttttt
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ctcctcctgg tcatgggtac ctccttgcag gtgcagccct ttgcctccct catcagcaag
900
gcacccctct ccacccctcg cctgctcatc aacaaggaga aagctggcca gtcggaccct
960
ttcctgggga tgattatggg cctcggagga ggcatggact ttgactccaa gaaggcctac
1020
agggacgtgg cctggctggg tgaatgcgac cagggctgcc tggcccttgc tgagctcctt
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1140
tcgggggcgg gggtccccaa ccccagcact tcagcttccc ccaagaagtc cccgccacct
1200
gccaaggacg aggccaggac aacagagagg gagaaacccc agtgacagct gcatctccca
1260
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ggcgggatgt cgagctcctc agggacagct gagccccaac cgggcctggc cccctcttaa
1320
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1380
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1440
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1560
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1620
ctaagtaaac catacctaac ctaccccagt gtgggtgtgg gcctctgaat ataacccaca
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1740
gtgggtggtg ggcccccttc acgtgggacc cacttcccat gctggatggg cagaagacat
1800
tgcttattgg agacaaatta aaaacaaaaa caactaacaa aaaaaaaaa aaaaaa
1856


<210> 5084
<211> 396
<212> PRT
<213> Homo sapiens

<400> 5084
Arg Asp Thr Val Val Gly Asp Gly Thr Glu Arg Ser Val Thr Ala Ser
1               5                  10                  15
Arg Ala Ser Ala Pro Arg Pro Trp Gln Ser Gln Thr Asp Ser Asp Ser
            20                  25                  30
Asp Ser Glu Gly Gly Ala Ala Gly Gly Glu Ala Asp Met Asp Phe Leu
        35                  40                  45
Arg Asn Leu Phe Ser Gln Thr Leu Ser Leu Gly Ser Gln Lys Glu Arg
    50                  55                  60
Leu Leu Asp Glu Leu Thr Leu Glu Gly Val Ala Arg Tyr Met Gln Ser
65                  70                  75                  80
Glu Arg Cys Arg Arg Val Ile Cys Leu Val Gly Ala Gly Ile Ser Thr
                85                  90                  95
Ser Ala Gly Ile Pro Asp Phe Arg Ser Pro Ser Thr Gly Leu Tyr Asp
            100                 105                 110
Asn Leu Glu Lys Tyr His Leu Pro Tyr Pro Glu Ala Ile Phe Glu Ile
            115                 120                 125
Ser Tyr Phe Lys Lys His Pro Glu Pro Phe Phe Ala Leu Ala Lys Glu
        130                 135                 140
Leu Tyr Pro Gly Gln Phe Lys Pro Thr Ile Cys His Tyr Phe Met Arg
145                 150                 155                 160
Leu Leu Lys Asp Lys Gly Leu Leu Leu Arg Cys Tyr Thr Gln Asn Ile
                165                 170                 175
Asp Thr Leu Glu Arg Ile Ala Gly Leu Glu Gln Glu Asp Leu Val Glu
            180                 185                 190
Ala His Gly Thr Phe Tyr Thr Ser His Cys Val Ser Ala Ser Cys Arg
        195                 200                 205
His Glu Tyr Pro Leu Ser Trp Met Lys Glu Lys Ile Phe Ser Glu Val

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          210                    215                    220
Thr Pro Lys Cys Glu Asp Cys Gln Ser Leu Val Lys Pro Asp Ile Val
225                    230                    235                    240
Phe Phe Gly Glu Ser Leu Pro Ala Arg Phe Phe Ser Cys Met Gln Ser
               245                    250                    255
Asp Phe Leu Lys Val Asp Leu Leu Leu Val Met Gly Thr Ser Leu Gln
               260                    265                    270
Val Gln Pro Phe Ala Ser Leu Ile Ser Lys Ala Pro Leu Ser Thr Pro
     275                    280                    285
Arg Leu Leu Ile Asn Lys Glu Lys Ala Gly Gln Ser Asp Pro Phe Leu
     290                    295                    300
Gly Met Ile Met Gly Leu Gly Gly Gly Met Asp Phe Asp Ser Lys Lys
305                    310                    315                    320
Ala Tyr Arg Asp Val Ala Trp Leu Gly Glu Cys Asp Gln Gly Cys Leu
               325                    330                    335
Ala Leu Ala Glu Leu Leu Gly Trp Lys Lys Glu Leu Glu Asp Leu Val
               340                    345                    350
Arg Arg Glu His Ala Ser Ile Asp Ala Gln Ser Gly Ala Gly Val Pro
               355                    360                    365
Asn Pro Ser Thr Ser Ala Ser Pro Lys Lys Ser Pro Pro Pro Ala Lys
     370                    375                    380
Asp Glu Ala Arg Thr Thr Glu Arg Glu Lys Pro Gln
385                    390                    395
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<210> 5085
<211> 2964
<212> DNA
<213> Homo sapiens

<400> 5085
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120
tgaaatctag cccgtccgag cgcgagtcca acggccgcgg ccgcaccaag gcccctcag
180
accgtgccat gggtgacagt gatgacgagt acgatcgaag gcgcagggac aagttcagaa
240
gagagcgcag cgactacgac cgttcccgcg agagagatga aagacgtcga ggggacgatt
300
ggaatgacag agagtgggac cgtggccgtg agcgccgtag tcggggtgaa tatcgggact
360
atgaccggaa tcggcgagag cgcttctcgc cacctcgcca cgaactcagc ccgccacaga
420
agcgcatgag gagagactgg gatgagcaca gctctgaccc ataccacagt ggctatgaga
480
tgccctatgc tgnggggggg tggggcccca acttatggcc ccctcagcc ctggggccac
540
cctgacgtcc acatcatgca gcaccatgtc ctgcctatcc aggccaggct gggcagcatt
600
gcagagattg acctgggtgt gccgccgccc gtgatgaaga ccttcaagga gtttctcctc
660
tccctggatg actcggtgga tgagacggag gccgtcaagc gctataatga ctacaagctg
720
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gatttccgga ggcaacagat gcaggatttc ttcctggcgc acaaagatga ggagtggttt
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840
caaaaccgac tgagggtctt cctgtccctc atggagactg gctggtttga taaccttctc
900
ctggacatag acaaagctga tgccattgtc aagatgctgg atgcagccgt gattaagatg
960
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1020
ggaaagcctg gggagcccag caagaaagaa gaaggacggg ctggagcagg cctaggggac
1080
ggggagcgca aaaccaacga caaggatgag aagaaggaag acggcaagca ggctgagaat
1140
gacagttcta atgatgacaa aacaaagaag tcggagggtg atggggacaa ggaagagaag
1200
aaagaagact ccgagaagga agccaaaaag agtagcaaga agcggaaccg gaagcacagt
1260
ggtgacgaca gctttgacga gggcagcgtg tcagagtctg agtcggagtc agagagcggc
1320
caggctgagg aggagaagga ggaggccgaa gaagcgctca aggagaagga gaagcccaag
1380
gaagaagaat gggagaagcc caaggacgcc gcggggctgg agtgcaagcc gcggccgctg
1440
cataagacct gctccctctt catgcgcaac atcgcgccca acatctcccg ggccgagatc
1500
atctcccttt gtaaaaggta cccaggcttt atgcgggtgg cgctctcaga gccccagcca
1560
gagaggaggt ttttccgtcg tggctgggtg accttcgacc gcagtgttaa cattaaagag
1620
atctgttgga acctgcagaa catccgtctc cgggagtgtg agctgagccc tggtgtgaac
1680
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1740
cgcaacgaca tcaagctggc ggccaagctg atccacacgc tggatgacag gacacagctt
1800
tgggcctcag aaccagggac gcctcccctg cccacgagcc tgccctcgca aaacccgatc
1860
ttgaagaata tcaccgacta cctgatcgag gaagtaagcg ccgaggagga ggagctgctg
1920
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1980
aacgtggagc gggatgagaa gttgattaag gtcttggaca agctcctcct ttacctgcgc
2040
atcgtgcatt ccttggatta ttacaacacc tgtgagtacc ccaacgagga cgagatgccc
2100
aatcgctgtg ggatcatcca cgttcggggg cccatgccac ccaaccgcat cagtcacggg
2160
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2220
gagtcactct cagaggaaga ggcccagaag atggggcgca aagacccaga gcaggaagtg
2280
gagaagttcg tcacctccaa cacgcaggaa ctgggcaagg ataagtggct gtgtcctctc
2340
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<210> 5086
<211> 792
<212> PRT
<213> Homo sapiens

<400> 5086
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His Pro Asp Val His Ile Met Gln His His Val Leu Pro Ile Gln Ala
            35   40   45
Arg Leu Gly Ser Ile Ala Glu Ile Asp Leu Gly Val Pro Pro Pro Val
    50   55   60
Met Lys Thr Phe Lys Glu Phe Leu Leu Ser Leu Asp Asp Ser Val Asp
65   70   75   80
Glu Thr Glu Ala Val Lys Arg Tyr Asn Asp Tyr Lys Leu Asp Phe Arg
                85   90   95
Arg Gln Gln Met Gln Asp Phe Phe Leu Ala His Lys Asp Glu Glu Trp
            100   105   110
Phe Arg Ser Lys Tyr His Pro Asp Glu Val Gly Lys Arg Arg Gln Glu
            115   120   125
Ala Arg Gly Ala Leu Gln Asn Arg Leu Arg Val Phe Leu Ser Leu Met
            130   135   140
Glu Thr Gly Trp Phe Asp Asn Leu Leu Leu Asp Ile Asp Lys Ala Asp
145   150   155   160
Ala Ile Val Lys Met Leu Asp Ala Ala Val Ile Lys Met Glu Gly Gly
                165   170   175
Thr Glu Asn Asp Leu Arg Ile Leu Glu Gln Glu Glu Glu Glu Glu Gln
            180   185   190
Ala Gly Lys Pro Gly Glu Pro Ser Lys Lys Glu Glu Gly Arg Ala Gly

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Ala Gly Leu Gly Asp Gly Glu Arg Lys Thr Asn Asp Lys Asp Glu Lys
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Lys Glu Asp Gly Lys Gln Ala Glu Asn Asp Ser Ser Asn Asp Asp Lys
225                    230                    235                    240
Thr Lys Lys Ser Glu Gly Asp Gly Asp Lys Glu Glu Lys Lys Glu Asp
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Ser Glu Lys Glu Ala Lys Lys Ser Ser Lys Lys Arg Asn Arg Lys His
                   260                    265                    270
Ser Gly Asp Asp Ser Phe Asp Glu Gly Ser Val Ser Glu Ser Glu Ser
                   275                    280                    285
Glu Ser Glu Ser Gly Gln Ala Glu Glu Glu Lys Glu Glu Ala Glu Glu
                   290                    295                    300
Ala Leu Lys Glu Lys Glu Lys Pro Lys Glu Glu Glu Trp Glu Lys Pro
305                    310                    315                    320
Lys Asp Ala Ala Gly Leu Glu Cys Lys Pro Arg Pro Leu His Lys Thr
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Cys Ser Leu Phe Met Arg Asn Ile Ala Pro Asn Ile Ser Arg Ala Glu
                   340                    345                    350
Ile Ile Ser Leu Cys Lys Arg Tyr Pro Gly Phe Met Arg Val Ala Leu
                   355                    360                    365
Ser Glu Pro Gln Pro Glu Arg Arg Phe Phe Arg Arg Gly Trp Val Thr
                   370                    375                    380
Phe Asp Arg Ser Val Asn Ile Lys Glu Ile Cys Trp Asn Leu Gln Asn
385                    390                    395                    400
Ile Arg Leu Arg Glu Cys Glu Leu Ser Pro Gly Val Asn Arg Asp Leu
                   405                    410                    415
Thr Arg Arg Val Arg Asn Ile Asn Gly Ile Thr Gln His Lys Gln Ile
              420                    425                    430
Val Arg Asn Asp Ile Lys Leu Ala Ala Lys Leu Ile His Thr Leu Asp
                   435                    440                    445
Asp Arg Thr Gln Leu Trp Ala Ser Glu Pro Gly Thr Pro Pro Leu Pro
                   450                    455                    460
Thr Ser Leu Pro Ser Gln Asn Pro Ile Leu Lys Asn Ile Thr Asp Tyr
465                    470                    475                    480
Leu Ile Glu Glu Val Ser Ala Glu Glu Glu Leu Leu Gly Ser Ser
                   485                    490                    495
Gly Gly Ala Pro Pro Glu Glu Pro Lys Glu Gly Asn Pro Ala Glu
                   500                    505                    510
Ile Asn Val Glu Arg Asp Glu Lys Leu Ile Lys Val Leu Asp Lys Leu
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Leu Leu Tyr Leu Arg Ile Val His Ser Leu Asp Tyr Tyr Asn Thr Cys
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Glu Tyr Pro Asn Glu Asp Glu Met Pro Asn Arg Cys Gly Ile Ile His
545                    550                    555                    560
Val Arg Gly Pro Met Pro Pro Asn Arg Ile Ser His Gly Glu Val Leu
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Glu Trp Gln Lys Thr Phe Glu Glu Lys Leu Thr Pro Leu Leu Ser Val
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Arg Glu Ser Leu Ser Glu Glu Glu Ala Gln Lys Met Gly Arg Lys Asp
                   595                    600                    605
Pro Glu Gln Glu Val Glu Lys Phe Val Thr Ser Asn Thr Gln Glu Leu
              610                    615                    620
Gly Lys Asp Lys Trp Leu Cys Pro Leu Ser Gly Lys Lys Phe Lys Gly
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Ala Lys Arg Pro Ala Leu Pro Glu Ile Lys Pro Ala Gln Pro Pro Gly
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Pro Ala Gln Ile Leu Pro Pro Gly Leu Thr Pro Gly Leu Pro Tyr Pro
        690                    695                    700
His Gln Thr Pro Gln Gly Leu Met Pro Tyr Gly Gln Pro Arg Pro Pro
705                    710                    715                    720
Ile Leu Gly Tyr Gly Ala Gly Ala Val Arg Pro Ala Val Pro Thr Gly
                725                    730                    735
Gly Pro Pro Tyr Pro His Ala Pro Tyr Gly Ala Gly Arg Gly Asn Tyr
            740                    745                    750
Asp Ala Phe Arg Gly Gln Gly Gly Tyr Pro Gly Lys Pro Arg Asn Arg
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Met Val Arg Gly Asp Pro Arg Ala Ile Val Glu Tyr Arg Asp Leu Asp
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Ala Pro Asp Asp Val Asp Phe Phe
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<210> 5087
<211> 4949
<212> DNA
<213> Homo sapiens
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<400> 5087
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780
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<210> 5088
<211> 465
<212> PRT
<213> Homo sapiens

<400> 5088
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            20   25   30
Gln Gly Arg Ser Cys Pro Gly Thr Pro Asp Ile Ala Asp Val Ala Glu
        35   40   45
Leu Arg Val Glu Leu Thr His Gly Ala Glu Thr Leu Thr Leu Trp Gln
    50   55   60
Ser Thr Gly Pro Trp Xaa Pro Trp Xaa Trp Gln Glu Leu Ala Val Thr
65   70   75   80
Thr Gly Arg Ile Arg Gly Asp Phe Arg Val Thr Phe Ser Ala Thr Arg
                85   90   95
Asn Ala Thr His Arg Gly Ala Val Ala Leu Asp Asp Leu Glu Phe Trp
            100   105   110
Asp Cys Gly Leu Pro Thr Pro Gln Ala Asn Cys Pro Pro Gly His His

4273

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His Cys Gln Asn Lys Val Cys Val Glu Pro Gln Gln Leu Cys Asp Gly
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Glu Asp Asn Cys Gly Asp Leu Ser Asp Glu Asn Pro Leu Thr Cys Gly
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Arg His Ile Ala Thr Asp Phe Glu Thr Gly Leu Gly Pro Trp Asn Arg
                  165                     170                     175
Ser Glu Gly Trp Ser Arg Asn His Arg Ala Gly Gly Pro Glu Arg Pro
            180                     185                     190
Ser Trp Pro Arg Arg Asp His Ser Arg Asn Ser Ala Xaa Arg Leu Val
            195                     200                     205
Phe Tyr Gln Tyr Leu Ser Gly Ser Glu Ala Gly Cys Leu Gln Leu Phe
      210                     215                     220
Leu Gln Thr Leu Gly Pro Gly Ala Pro Arg Ala Pro Val Leu Leu Arg
225                     230                     235                     240
Arg Arg Arg Gly Glu Leu Gly Thr Ala Trp Val Arg Asp Arg Val Asp
                  245                     250                     255
Ile Gln Ser Ala Tyr Pro Phe Gln Ile Leu Leu Ala Gly Gln Thr Gly
            260                     265                     270
Pro Gly Gly Val Val Gly Leu Asp Asp Leu Ile Leu Ser Asp His Cys
            275                     280                     285
Arg Pro Val Ser Glu Val Ser Thr Leu Gln Pro Leu Pro Pro Gly Pro
      290                     295                     300
Arg Ala Pro Ala Pro Gln Pro Leu Pro Pro Ser Ser Arg Leu Gln Asp
305                     310                     315                     320
Ser Cys Lys Gln Gly His Leu Ala Cys Gly Asp Leu Cys Val Pro Pro
                  325                     330                     335
Glu Gln Leu Cys Asp Phe Glu Glu Gln Cys Ala Gly Gly Glu Asp Glu
            340                     345                     350
Gln Ala Cys Gly Thr Thr Asp Phe Glu Ser Pro Glu Ala Gly Gly Trp
            355                     360                     365
Glu Asp Ala Ser Val Gly Arg Leu Gln Trp Arg Arg Val Ser Ala Gln
      370                     375                     380
Glu Ser Gln Gly Ser Ser Ala Ala Ala Ala Gly His Phe Leu Ser Leu
385                     390                     395                     400
Gln Arg Ala Trp Gly Gln Leu Gly Ala Glu Ala Arg Val Leu Thr Pro
                  405                     410                     415
Leu Leu Gly Pro Ser Gly Pro Ser Cys Glu Leu His Leu Ala Tyr Tyr
            420                     425                     430
Leu Gln Ser Gln Pro Arg Ala Gly Phe Val Gly Leu Val Asp Leu Asp
      435                     440                     445
Gly Pro Asp Gln Gln Xaa Ser Trp Gly Gly Gln Arg Asp Pro Glu Gly
      450                     455                     460
Leu
465
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<210> 5089
<211> 793
<212> DNA
<213> Homo sapiens

<400> 5089
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<210> 5090
<211> 104
<212> PRT
<213> Homo sapiens

<400> 5090
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Thr His Cys Ser Arg His Gly Ser Gly Pro Asn Ile Ile Leu Thr Gly
                20                  25                  30
Asp Ser Ser Pro Gly Phe Ser Lys Glu Ile Ala Ala Ala Leu Ala Gly
            35                  40                  45
Val Pro Gly Phe Glu Val Ser Ala Ala Gly Leu Glu Leu Gly Leu Gly
        50                  55                  60
Leu Glu Asp Glu Leu Arg Met Glu Pro Leu Gly Leu Glu Gly Leu Asn
65                  70                  75                  80
Met Leu Ser Asp Pro Cys Ala Leu Leu Pro Asp Pro Ala Val Glu Glu
                85                  90                  95
Ser Phe Arg Ser Asp Arg Leu Gln
            100


<210> 5091
<211> 3150
<212> DNA
<213> Homo sapiens

<400> 5091
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4276

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2100
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2160
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2280
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2400
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2460
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2520
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2760
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2820
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2880
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2940
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3000
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3150

<210> 5092
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<211> 632
<212> PRT
<213> Homo sapiens

<400> 5092
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Lys Arg Glu Arg Lys Gln Ser Phe Met Gly Asn Ser Gly Asn Ser Trp
            20   25   30
Ser His Thr Pro Phe Pro Lys Leu Glu Leu Gly Leu Gly Pro Gln Pro
        35   40   45
Met Ala Pro Arg Glu Leu Pro Thr Cys Ser Ile Cys Leu Glu Arg Leu
    50   55   60
Arg Asp Pro Ile Ser Leu Asp Cys Gly His Asp Phe Cys Ile Arg Cys
65   70   75   80
Phe Ser Thr His Arg Leu Pro Gly Cys Glu Pro Pro Cys Cys Pro Glu
                85   90   95
Cys Arg Lys Ile Cys Lys Gln Lys Arg Gly Leu Arg Ser Leu Gly Glu
            100   105   110
Lys Met Lys Leu Leu Pro Gln Arg Pro Leu Pro Pro Ala Leu Gln Glu
        115   120   125
Thr Cys Pro Val Arg Ala Glu Pro Leu Leu Leu Val Arg Ile Asn Ala
    130   135   140
Ser Gly Gly Leu Ile Leu Arg Met Gly Ala Ile Asn Arg Cys Leu Lys
145   150   155   160
His Pro Leu Ala Arg Asp Thr Pro Val Cys Leu Leu Ala Val Leu Gly
                165   170   175
Glu Gln His Ser Gly Lys Ser Phe Leu Leu Asn His Leu Leu Gln Gly
            ·180   185   190
Leu Pro Gly Leu Glu Ser Gly Glu Gly Gly Arg Pro Arg Gly Gly Glu
        195   200   205
Ala Ser Leu Gln Gly Cys Arg Trp Gly Ala Asn Gly Leu Ala Gly Gly
    210   215   220
Ile Trp Met Trp Ser His Pro Phe Leu Leu Gly Lys Glu Gly Lys Lys
225   230   235   240
Val Ala Val Phe Leu Val Asp Thr Gly Asp Ala Met Ser Pro Glu Leu
                245   250   255
Ser Arg Glu Thr Arg Ile Lys Leu Cys Ala Leu Thr Thr Met Leu Ser
            260   265   270
Ser Tyr Gln Ile Leu Ser Thr Ser Gln Glu Leu Lys Asp Thr Asp Leu
        275   280   285
Asp Tyr Leu Glu Met Phe Val His Val Ala Glu Val Met Gly Lys His
    290   295   300
Tyr Gly Met Val Pro Ile Gln His Leu Asp Leu Leu Val Arg Asp Ser
305   310   315   320
Ser His Pro Asn Lys Ala Gly Gln Gly His Val Gly Asn Ile Phe Gln
                325   330   335
Arg Leu Ser Gly Arg Tyr Pro Lys Val Gln Glu Leu Leu Gln Gly Lys
            340   345   350
Arg Ala Arg Cys Cys Leu Leu Pro Ala Pro Gly Arg Arg Arg Met Asn
        355   360   365
Gln Gly His Ala Ser Pro Gly Gly Asp Thr Asp Asp Asp Phe Arg His
    370   375   380
Leu Leu Gly Ala Tyr Val Ser Asp Val Leu Ser Ala Ala Pro Gln His

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385                    390                    395                    400
Ala Lys Ser Arg Cys Gln Gly Tyr Trp Asn Glu Gly Arg Ala Val Ala
                405                    410                    415
Arg Gly Asp Arg Arg Leu Leu Thr Gly Gln Gln Leu Ala Gln Glu Ile
                420                    425                    430
Lys Asn Leu Ser Gly Trp Met Gly Arg Thr Gly Pro Gly Phe Thr Ser
                435                    440                    445
Pro Asp Glu Met Ala Ala Gln Leu His Asp Leu Arg Lys Val Glu Ala
        450                    455                    460
Ala Lys Arg Glu Phe Glu Glu Tyr Val Arg Gln Gln Asp Val Ala Thr
465                    470                    475                    480
Lys Arg Ile Phe Ser Ala Leu Arg Val Leu Pro Asp Thr Met Arg Asn
                485                    490                    495
Leu Leu Ser Thr Gln Lys Asp Ala Ile Leu Ala Arg His Gly Val Ala
                500                    505                    510
Leu Leu Cys Lys Gly Arg Asp Gln Thr Leu Glu Ala Leu Glu Ala Glu
                515                    520                    525
Leu Gln Ala Thr Ala Lys Ala Phe Met Asp Ser Tyr Thr Met Arg Phe
        530                    535                    540
Cys Gly His Leu Ala Ala Val Gly Gly Ala Val Gly Ala Gly Leu Met
545                    550                    555                    560
Gly Leu Ala Gly Gly Val Val Gly Ala Gly Met Ala Ala Ala Ala Leu
                565                    570                    575
Ala Ala Glu Ala Gly Met Val Ala Ala Gly Ala Ala Val Gly Ala Thr
        580                    585                    590
Gly Ala Ala Val Val Gly Gly Gly Val Gly Ala Gly Leu Ala Ala Thr
        595                    600                    605
Val Gly Cys Met Glu Lys Glu Glu Asp Glu Arg Leu Leu Glu Gly Asp
        610                    615                    620
Arg Glu Pro Leu Leu Gln Glu Glu
625                    630
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<210> 5093
<211> 1662
<212> DNA
<213> Homo sapiens

<400> 5093
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cgcctggccc tgggcgccgc gccgcacgag caccagccta gagccaggtt tggttttcag
120
gactgaagct tcaagatggc tgaccaggac cctgcgggca tcagcccccct ccagcaaatg
180
gtggcctcag gcaccggggc tgtggttacc tctctcttca tgacacccct ggacgtggtg
240
aaggttcgcc tgcagtctca gcggccctcc atggccagcg agctgatgcc ttcctccaga
300
ctgtggagcc tctcctatac caaattgccc tccctctcct ataccaaatg gaagtgcctc
360
ctgtattgca atggtgtcct ggagcctctg tacctgtgcc caaatggtgc ccgctgtgcc
420
acctggtttc aagaccctac ccgcttcact ggcaccatgg atgccttcgt gaagatcgtg
480
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aggcacgagg gcaccaggac cctctggagc ggcctccccg ccaccctggt gatgactgtg
540
ccagctaccg ccatctactt cactgcctat gaccaactga aggccttcct gtgtggtcga
600
gccctgacct ctgacctcta cgcacccatg gtggctggcg cgctggcccg cctgggcacc
660
gtgactgtga tcagccccct ggagcttatg cggacaaagc tgcaggctca gcatgtgtcg
720
taccgggagc tgggtgcctg tgttcgaact gcagtggctc agggtggctg gcgctcactg
780
tggctgggct ggggccccac tgcccttcga gatgtgccct ctcagtgca tcccccaccc
840
caagccctgt actggttcaa ctatgagctg gtgaagagct ggctcaatgg gctcaggccg
900
aaggaccaga cttctgtggg catgagcttt gtggctggtg gcatctcagg gacggtggct
960
gcagtgctga ctctaccctt tgacgtggta aagacccaac gccaggtcgc tctgggagcg
1020
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1080
atccgggccg agtcgggcac caagggactc tttgcaggct tccttcctcg gatcatcaag
1140
gctgcccct cctgtgccat catgatcagc acctatgagt tcggcaaaag cttcttccag
1200
aggctgaacc aggaccggct tctgggcggc tgaaaggggc aaggaggcaa ggaccccgtc
1260
tctcccacgg atggggagag ggcaggagga gacccagcca agtgcctttt cctcagcact
1320
gagggagggg gcttgtttcc cttccctccc ggcgacaagc tccagggcag ggctgtccct
1380
ctgggcggcc agcacttcc tcagacacaa cttcttcctg ctgctccagt cgtggggatc
1440
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1500
ctgtgtttgc tgtagctggg catgtctcca ggaaccaaga gccctcagc ctggtgtagt
1560
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1620
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1662
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<210> 5094
<211> 365
<212> PRT
<213> Homo sapiens

<400> 5094
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1               5                   10                  15
Ala Ser Gly Thr Gly Ala Val Val Thr Ser Leu Phe Met Thr Pro Leu
            20                  25                  30
Asp Val Val Lys Val Arg Leu Gln Ser Gln Arg Pro Ser Met Ala Ser
        35                  40                  45
Glu Leu Met Pro Ser Ser Arg Leu Trp Ser Leu Ser Tyr Thr Lys Leu
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      50                    55                    60
Pro Ser Leu Ser Tyr Thr Lys Trp Lys Cys Leu Leu Tyr Cys Asn Gly
65                    70                    75                    80
Val Leu Glu Pro Leu Tyr Leu Cys Pro Asn Gly Ala Arg Cys Ala Thr
                 85                    90                    95
Trp Phe Gln Asp Pro Thr Arg Phe Thr Gly Thr Met Asp Ala Phe Val
                100                   105                   110
Lys Ile Val Arg His Glu Gly Thr Arg Thr Leu Trp Ser Gly Leu Pro
            115                   120                   125
Ala Thr Leu Val Met Thr Val Pro Ala Thr Ala Ile Tyr Phe Thr Ala
        130                   135                   140
Tyr Asp Gln Leu Lys Ala Phe Leu Cys Gly Arg Ala Leu Thr Ser Asp
145                   150                   155                   160
Leu Tyr Ala Pro Met Val Ala Gly Ala Leu Ala Arg Leu Gly Thr Val
                165                   170                   175
Thr Val Ile Ser Pro Leu Glu Leu Met Arg Thr Lys Leu Gln Ala Gln
                180                   185                   190
His Val Ser Tyr Arg Glu Leu Gly Ala Cys Val Arg Thr Ala Val Ala
            195                   200                   205
Gln Gly Gly Trp Arg Ser Leu Trp Leu Gly Trp Gly Pro Thr Ala Leu
        210                   215                   220
Arg Asp Val Pro Phe Ser Val His Pro Pro Pro Gln Ala Leu Tyr Trp
225                   230                   235                   240
Phe Asn Tyr Glu Leu Val Lys Ser Trp Leu Asn Gly Leu Arg Pro Lys
                245                   250                   255
Asp Gln Thr Ser Val Gly Met Ser Phe Val Ala Gly Gly Ile Ser Gly
                260                   265                   270
Thr Val Ala Ala Val Leu Thr Leu Pro Phe Asp Val Val Lys Thr Gln
            275                   280                   285
Arg Gln Val Ala Leu Gly Ala Met Glu Ala Val Arg Val Asn Pro Leu
        290                   295                   300
His Val Asp Ser Thr Trp Leu Leu Leu Arg Arg Ile Arg Ala Glu Ser
305                   310                   315                   320
Gly Thr Lys Gly Leu Phe Ala Gly Phe Leu Pro Arg Ile Ile Lys Ala
                325                   330                   335
Ala Pro Ser Cys Ala Ile Met Ile Ser Thr Tyr Glu Phe Gly Lys Ser
                340                   345                   350
Phe Phe Gln Arg Leu Asn Gln Asp Arg Leu Leu Gly Gly
        355                   360                   365
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<210> 5095
<211> 2230
<212> DNA
<213> Homo sapiens

<400> 5095
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120
tttcttgacg tctctaggaa ccttcaggcc acggatcagc agaacataca cgaacaaggg
180
aaaaaaattc ctcttaattt tactgatggc cccccgtctc tcaggtggtc tgagagtggc
240
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acttggtaaa cagtgtgtgt ttaatccagc ctctgcctct gactaccttt aagaccagga
300
ctcgaagcag agtgagaggc ctccctccac ccacctcggg gcgagtgaag acacagctta
360
cagaggcgtt caaagtagtg acgcagtgag gtctgaatga acacggagga ttttattact
420
caccattaat ggtagtgaaa tgcccttcgg tggataccat caggtgaggt agggaagaca
480
ttccagagga aatctgttaa tggggcaacg tttttatttc tgtacattta catacaaatt
540
ttccccaaag gtacaacaga tgcgacacca tgcagacacg cagctgtgaa cgacagttca
600
gaactcagcg taagcttgtg ctatgaacga gcaccgtcag agaattccca cccacacgta
660
cagaaacaca gtttttatat tacaacctca aggacagagg gagggaagtg ttcgccgcta
720
gacatgacac accatactgc ttttccaaaa cacacgggac atgaaagcga ggtggtgcct
780
tctagacgag aggacagctg tagtgtgggc ctcccccgca catgcgatac ctcgggccgg
840
gcggtgtgac gtcacaggcc cacttacggc acttgcagtt tgggattgct catttggctc
900
taggaagtgg tggtgtctga gtgcgatact tcccttacga ggtttgtttt tgttttcttt
960
ctgttctgta gccaaaccaa tttaccagcc cgtcttccag atgcaggtga tcttactctc
1020
agtaaacaaa aacatgtaac cttttttcctg tttctcttgg gtggtaataa ttttagggca
1080
tttgataaga gtttgacttc agaaaaagaa caaagtgaag aaatgttcag ctccatctca
1140
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1260
gcgaagggtc tccctattag ccaggaaggg aacagcacag aggggttcaa gcctgacaga
1320
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1380
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1440
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1560
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1620
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1740
gcagtgtctt cgttggacca gttttttatt gtcatttgag gtggagatca gagatcatga
1800
ccagaagagt gtgagtgctg tcccttgcca ccaacttcct agagatttcg ggcagcactc
1860
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tacagcttca atttccaaaa aaaaaaaagt ttacacgacc agtgagactg ctcgcaactt
1920
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1980
tgctgagggt gatgggtgca gacgtacacc tgtccaggtg caggctcagg ggcctcgctg
2040
gatccttccc accttcccca actgcctact ggcctggcta ctggataggt cctattctgt
2100
acataatggg ggtttgttga caggtggctt tatagcaagt actccaaaaa aggtaaaagg
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2220
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2230

<210> 5096
<211> 153
<212> PRT
<213> Homo sapiens

<400> 5096
Met Ala Leu Ser Arg Arg Gly Gly Pro Thr Ala Leu Leu Pro Gly Gln
1   5   10   15
Pro Glu Glu Glu Glu Ala Gly Cys Leu Phe Gly Gly Ser Phe Ser Leu
            20   25   30
Gly Ile Pro Glu Ala Val Glu Gln His Leu Tyr Glu Met Leu Pro Glu
        35   40   45
Gln Gln His Phe Pro Val Gly Thr Ala Pro Gly Asn Pro Val Pro Ser
    50   55   60
Glu Gln Gly Gly Arg Thr His Pro Ser Leu Ile Arg Ile Trp Ala Arg
65   70   75   80
Arg Ala Gln Gln Gly Arg Leu Leu Arg Leu Pro Thr Ser Gln His Arg
                85   90   95
Leu Ser Gly Leu Asn Pro Ser Val Leu Phe Pro Ser Trp Leu Ile Gly
            100   105   110
Arg Pro Phe Ala Gly Thr His Cys Phe Asn Leu Thr Leu Pro Pro Pro
            115   120   125
Ala Thr Leu Leu His Thr Pro Leu Arg Ser Ala Ser Leu Pro Cys Gln
    130   135   140
Pro Phe Asn Lys Ser Tyr Ala Gln Met
145   150

<210> 5097
<211> 3074
<212> DNA
<213> Homo sapiens

<400> 5097
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tattttcatg tgtaagaaga aaaacataac tagcacgtga acatgactgc atggatacac
120
ggctcagcac gaggctaaag tcagaagtga gtgaaaacaa aatagcatgt tgatttaagt
180

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gaaataacag aacaggaggc ctttggttat aacaattgtg gaggtggtct gtgaatgcag
240
aagttcggga ctccctgctc taggctcagg gcaagacgct gtggtctggg ccgaagcccc
300
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360
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420
tagaagtgat aaagcaacaa tgatgattct ccttcaaagg gaagaagaat cttccaggtg
480
tggtcttgag gacgcagagg ttacaacaca ggctgggctg cagggcccaa gtaggacttg
540
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600
tttgtgtttg ggggagaggg ggtgcatggc ccaagtcaag gctgaaggag gaacgcttgg
660
cccctgcacc ctgttcccag catataccag gctctcaccc catgcctgct gactcaacac
720
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840
gcggggaagt ccatggctgt gccccaactg ggtcccattc ctgtacatgt gcgaaccaag
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960
cctcaacatt ttcaaaaagc actttttttt ttggagacag agtctcgctg tgtctcccag
1020
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1080
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1320
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1620
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1680
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1800
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4284

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1920
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1980
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2100
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2160
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2220
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2280
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2460
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2520
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2820
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2940
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3060
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3074

<210> 5098
<211> 114
<212> PRT
<213> Homo sapiens

<400> 5098
Met Ala Val Pro Gln Leu Gly Pro Ile Pro Val His Val Arg Thr Lys
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Gly Val Phe Ala Ile Met Leu Pro Thr Lys Ser Lys Glu Cys Trp Phe

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              20                    25                    30
Pro Ser Phe Gln Pro Gln His Phe Gln Lys Ala Leu Phe Phe Leu Glu
          35                    40                    45
Thr Glu Ser Arg Cys Val Ser Gln Ala Gly Val Gln Arg Gly Asp Leu
      50                    55                    60
Ser Ser Leu Gln Pro Leu Pro Pro Gly Phe Lys Gln Phe Ser Cys Leu
65                    70                    75                    80
Ser Leu Pro Ser Ser Trp Asp Tyr Arg Cys Val Pro Pro His Pro Ala
                  85                    90                    95
Asn Phe Cys Ile Phe Ser Arg Asn Gly Val Ser Pro His Trp Pro Gly
                  100                   105                   110
Trp Ser
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<210> 5099
<211> 801
<212> DNA
<213> Homo sapiens

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120
ttgcatcttt acccactaga cttctgcact gacccagggg ctggagcgaa tcccagacca
180
gctcggctac ctggtactga gtgaaggtgc agtgctggcg ggcagcaagt gtgaagacag
240
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300
tgccatctct gagctggtca gcacagcctg cggtttccgg ctgcaccgcg gcatgaatgt
360
gcccttcaag cgcctgtctg gtgtgtctct cctccagtgg tctttggaga acacacactg
420
ctggtgacgg tgtcaggaca gagggtgttt gtggtgaaga ggcagaaccg aggtcgggag
480
cccattgatg tctgagcctg ccggagggcg agggtcggag aagcggattg ggtcctgggc
540
ctctgtgatg aggcaggcac acctgtcggt cttggcttgc tgctagaact agggccttct
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gctcgcccac ctcccacccc tacctggacg ggcccaggct tggggactct gagctgtgtt
660
aaggagaaca agggcaagga gacctccctt tgtgctccct cactccctaa taaacatgag
720
tctgatgttc tccaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
780
aaaaaaaaaa aaaaaaaaaa a
801
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<210> 5100
<211> 102
<212> PRT
<213> Homo sapiens
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<400> 5100
Ala Cys Arg Arg Ala Arg Val Gly Glu Ala Asp Trp Val Leu Gly Leu
 1               5                  10                  15
Cys Asp Glu Ala Gly Thr Pro Val Gly Leu Gly Leu Leu Leu Glu Leu
            20                  25                  30
Gly Pro Ser Ala Arg Pro Pro Pro Thr Pro Thr Trp Thr Gly Pro Gly
            35                  40                  45
Leu Gly Thr Leu Ser Cys Val Lys Glu Asn Lys Gly Lys Glu Thr Ser
        50                  55                  60
Leu Cys Ala Pro Ser Leu Pro Asn Lys His Glu Ser Asp Val Leu Gln
65                  70                  75                  80
Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
                85                  90                  95
Lys Lys Lys Lys Lys Lys
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<210> 5101
<211> 1711
<212> DNA
<213> Homo sapiens


<400> 5101
ggacctgctg ctggaagagc agcggcccga gccggggcca tggcgaagct gctgagctgc
60
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120
agcgtccctg agacgccaac ggcagtcact gcccccatt  ccagctcctg ggatacgtac
180
tatcagcccc gtgccctgga gaaacatgct gacagcatcc tggcactggc ttcagtattc
240
tggtccatct cttattactc ctctcccttc gccttcttct acttgtacag gaaaggttac
300
ttgagtttgt ccaaagtggt gccgttttct cactatgctg ggacattgct gctacttctg
360
gcaggtgtgg cctgcctccg aggcattggc cgctggacca accccagta  ccggcagttc
420
atcaccatct tggaagcaac acatcggaac cagtcttcag aaaacaagag gcagcttgcc
480
aactacaact ttgacttccg gagctggcca gtcgacttcc actgggaaga acccagcagc
540
cggaaggagt ctcgagggg  cccttcccgc cggggtgtgg ccctgcttcg cccagagccc
600
ctgcaccggg ggacagcaga caccctcctc aaccgggtta agaagctgcc ttgtcagatc
660
accagctacc tggtggcgca caccctaggg cgccggatgc tgtatccagg ctctgtgtac
720
ctgctgcaga aggccctcat gcctgcgctg ctgcagggcc aggcccgact ggtggaagag
780
tgtaatgggc gccgggcaaa gctgctggcc tgtgatggca atgagattga caccatgttt
840
gtggaccggc gggggacagc tgagccccag ggacagaagc tggtgatctg ctgtgagggg
900
aatgctgggt tttatgaggt gggctgcgtc tccacgcccc tggaagctgg atattcagtc
960
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ctgggctgga atcatccagg ctttgctgga agcacggggg taccattccc acagaatgag
1020
gccaatgcca tggatgtggt ggttcagttt gccatccacc gcctgggctt ccagccccag
1080
gacattgtca tctacgcctg gtccatcggc ggcttcactg ccacgtgggc agccatgtcc
1140
tacccagatg ttagtgccat gatcctggat gcctcctttg atgacctggt gcccttggcc
1200
ttgaaggtca tgccagacag ctggaggggc ctggtgacca ggaccgtgag gcagcatctc
1260
aatctaaaca cgcggagca gctgtgcaga taccagggtc ctgtactgct gatccggaga
1320
accaaggatg agatcatcac caccacgtga gtgcgtggga atctcggccc tcaggaaccc
1380
cagagatggc caggaacttg tcccttctac ctctgcccac cagaaacctg ggtatctaga
1440
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ggacatcatg tccaaccgag gcaatgacct cctgctgaag ctcctgcagc atcggtatcc
1560
ccgggtgatg gcagaggagg gtcttcgagt ggtgaggcag tggttggagg cctcctcaca
1620
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1680
cctccgctcc taccaggcag aacacgggcc c
1711

<210> 5102
<211> 436
<212> PRT
<213> Homo sapiens

<400> 5102
Met Ala Lys Leu Leu Ser Cys Val Leu Gly Pro Arg Leu Tyr Lys Ile
1   5   10   15
Tyr Arg Glu Arg Asp Ser Glu Arg Ala Pro Ala Ser Val Pro Glu Thr
            20   25   30
Pro Thr Ala Val Thr Ala Pro His Ser Ser Ser Trp Asp Thr Tyr Tyr
        35   40   45
Gln Pro Arg Ala Leu Glu Lys His Ala Asp Ser Ile Leu Ala Leu Ala
    50   55   60
Ser Val Phe Trp Ser Ile Ser Tyr Tyr Ser Ser Pro Phe Ala Phe Phe
65   70   75   80
Tyr Leu Tyr Arg Lys Gly Tyr Leu Ser Leu Ser Lys Val Val Pro Phe
                85   90   95
Ser His Tyr Ala Gly Thr Leu Leu Leu Leu Leu Ala Gly Val Ala Cys
            100   105   110
Leu Arg Gly Ile Gly Arg Trp Thr Asn Pro Gln Tyr Arg Gln Phe Ile
        115   120   125
Thr Ile Leu Glu Ala Thr His Arg Asn Gln Ser Ser Glu Asn Lys Arg
    130   135   140
Gln Leu Ala Asn Tyr Asn Phe Asp Phe Arg Ser Trp Pro Val Asp Phe
145   150   155   160
His Trp Glu Glu Pro Ser Ser Arg Lys Glu Ser Arg Gly Gly Pro Ser

```
                     165                    170                     175
Arg Arg Gly Val Ala Leu Leu Arg Pro Glu Pro Leu His Arg Gly Thr
             180                    185                     190
Ala Asp Thr Leu Leu Asn Arg Val Lys Lys Leu Pro Cys Gln Ile Thr
             195                    200                     205
Ser Tyr Leu Val Ala His Thr Leu Gly Arg Arg Met Leu Tyr Pro Gly
         210                    215                     220
Ser Val Tyr Leu Leu Gln Lys Ala Leu Met Pro Ala Leu Leu Gln Gly
225                    230                    235                     240
Gln Ala Arg Leu Val Glu Glu Cys Asn Gly Arg Arg Ala Lys Leu Leu
                 245                    250                     255
Ala Cys Asp Gly Asn Glu Ile Asp Thr Met Phe Val Asp Arg Arg Gly
             260                    265                     270
Thr Ala Glu Pro Gln Gly Gln Lys Leu Val Ile Cys Cys Glu Gly Asn
             275                    280                     285
Ala Gly Phe Tyr Glu Val Gly Cys Val Ser Thr Pro Leu Glu Ala Gly
         290                    295                     300
Tyr Ser Val Leu Gly Trp Asn His Pro Gly Phe Ala Gly Ser Thr Gly
305                    310                    315                     320
Val Pro Phe Pro Gln Asn Glu Ala Asn Ala Met Asp Val Val Val Gln
                 325                    330                     335
Phe Ala Ile His Arg Leu Gly Phe Gln Pro Gln Asp Ile Val Ile Tyr
             340                    345                     350
Ala Trp Ser Ile Gly Gly Phe Thr Ala Thr Trp Ala Ala Met Ser Tyr
             355                    360                     365
Pro Asp Val Ser Ala Met Ile Leu Asp Ala Ser Phe Asp Asp Leu Val
         370                    375                     380
Pro Leu Ala Leu Lys Val Met Pro Asp Ser Trp Arg Gly Leu Val Thr
385                    390                    395                     400
Arg Thr Val Arg Gln His Leu Asn Leu Asn Asn Ala Glu Gln Leu Cys
                 405                    410                     415
Arg Tyr Gln Gly Pro Val Leu Leu Ile Arg Arg Thr Lys Asp Glu Ile
             420                    425                     430
Ile Thr Thr Thr
             435
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<210> 5103
<211> 1982
<212> DNA
<213> Homo sapiens

<400> 5103
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tccatgactt tgtgctattt ctaatattta aataaaaaac atttcaaatt ttgcacaaat
120
aatttaggcc aatacataac tagatttgaa taaagtcaga tgaagcaata attcctcctc
180
tgtgtttgaa aggaatgagt gtggttacaa agtcacagga tgagtccctg ggatctgggg
240
tgggagaagg ggtggatcaa gaatgacttg ggtttgtcac tccctagcag gctgagggcg
300
tgacacagca gctcggtggc ggagaggtct attctagttt ctaacactcc aatgctaact
360
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ttttggatgt atttccttct agcatgtaga aagggctttt cttggctgcc aggaagtagg
420
gagcagggat gtggcatggt gatgatctga ggacagccag gcatatgctc agacactttg
480
gaaaactggg gaggggggaac agggagacag aatcttcatc ttcttccttt tgtgaactgg
540
ggaggagggt gcttggtgac attttcctga gtataaagaa ggaatacagg tttgaaaggt
600
ttgtaattgt atatgaaaac aggtattgaa aaccaatact gggggaaaaa aggcattgta
660
aacacttcta tttaaaatga agatttctgg aacaactata ctatatagtg gtatcacaag
720
tctttagctg gtaagatcta gcactgaaac aactcttaat ttttaacttg tgagggttct
780
ttttaaagca ccacttaaga cctatatatt aaaaaaatta aatatagaaa gattgttcta
840
tctaataaat gagtttgaga atgcacagga aacaacaaaa cccattttta acctctggta
900
actgaagtgg agcattaaat tcaaagccac tttgaggatt cctacattg ttcacctaag
960
ggaaaacaaa tgcagagcta tcaaagagct tctcgataaa ttcccagacc ttggagggct
1020
acagcttttc ataaatatgg tcactggact gatgatttct aaattttaaa tgtaataccc
1080
ccaaaaagta aaatatagga tttataagta ttttattttt ctgagaaatg accaaaaaat
1140
tggaaccagt tttaacaatc tctgaaaact ttaaattcta gacatgttta ttttgaaaca
1200
cacttccaaa caagataaac aacaatatgt aagtctacta cactgcagaa gtagcttaaa
1260
cttgccaaga catcctcctt tgcacttgtt tcctcaagag ttgctaggtc attttttttg
1320
cctgtggcca gcagcctctt taaaaacaac aaaggaccta atgtcaaagt cactctcagg
1380
tgtttgccct gccagctcag gccttctccg cacaccgcac cccgaaggag cacggaggcc
1440
cgcagggctg gctggccctg gttccagcct caccgccggt tggaccgctt ttcgtacttg
1500
tcctggctgc tccgctttcg tggcggggag taactggcgg aacctcgagc gcggaagctg
1560
tgcttgtaag gatggcttct gtgtttcttc gggtttcttt ctttctgggc ctggctcttc
1620
gctggttcct tatcgccctc tttttgttca tggtcttgct ctttatgaga gggcaatgtg
1680
ttttttaattg tgttaattag aaatctttta ttggtgctag caagaggaca cttcatccaa
1740
cccatgggtc ccattgtttc agctctagtt ttcccacgtt ttgcctcctt aagcagttct
1800
tctattgctt tcctctccag ctcctgatcc tcttccatcg ctggggcggt ttctggatcc
1860
tcaggtggtg ctggcggatc gggggctctg tcccatagcg cgaggcgcgg aggcgaagca
1920
ggaagcaagg accgaccgac ggaaggcgcg gaggacggaa ggagggagga ggagcgcagc
1980
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gg
1982

<210> 5104
<211> 167
<212> PRT
<213> Homo sapiens

<400> 5104
Met Phe Ile Leu Lys His Thr Ser Lys Gln Asp Lys Gln Gln Tyr Val
 1   5   10   15
Ser Leu Leu His Cys Arg Ser Ser Leu Asn Leu Pro Arg His Pro Pro
            20   25   30
Leu His Leu Phe Pro Gln Glu Leu Leu Gly His Phe Phe Cys Leu Trp
            35   40   45
Pro Ala Ala Ser Leu Lys Thr Thr Lys Asp Leu Met Ser Lys Ser Leu
        50   55   60
Ser Gly Val Cys Pro Ala Ser Ser Gly Leu Leu Arg Thr Pro His Pro
65   70   75   80
Glu Gly Ala Arg Arg Pro Ala Gly Leu Ala Gly Pro Gly Ser Ser Leu
                85   90   95
Thr Ala Gly Trp Thr Ala Phe Arg Thr Cys Pro Gly Cys Ser Ala Phe
            100   105   110
Val Ala Gly Ser Asn Trp Arg Asn Leu Glu Arg Gly Ser Cys Ala Cys
            115   120   125
Lys Asp Gly Phe Cys Val Ser Ser Gly Phe Leu Leu Ser Gly Pro Gly
        130   135   140
Ser Ser Leu Val Pro Tyr Arg Pro Leu Phe Val His Gly Leu Ala Leu
145   150   155   160
Tyr Glu Arg Ala Met Cys Phe
                165

<210> 5105
<211> 1359
<212> DNA
<213> Homo sapiens

<400> 5105
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agtgccaatg agtgcatggg ttgggagttg ttttgtgtgc ccccggcaaa gagtgtgggg
120
tccagttccc cccacaccca gcaaagtgga caagaccccc cagaggtggt tctctctgtt
180
ctggcttgtt gcaggttcgg agggcagccc tgagtgtctg ccatccgctc aactcagtgt
240
tttccttttc ccgcagacct cgcgacctgt gtcagcagag ccgccctgca ccaccatgtg
300
catcatcttc tttaagtttg atcctcgccc tgtttccaaa aacgcgtaca ggctcatctt
360
ggcagccaac agggatgaat tctacagccg accctccaag ttagctgact tctgggggaa
420
caacaacgag atcctcagtg ggctggacat ggaggaaggc aaggaaggag gcacatggct
480

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ctggcaggcc cgagggcgag cacagcaaag ggagacgtca tttgctacta tgggaaccga
600
ggggagcctg atcctatcgt tttgacgccc ggcacgtacg ggctgagcaa cgcgctgctg
660
gagactccct ggaggaagct gtgctttggg aagcagctct tcctggaggc tgtggaacgg
720
agccaggcgc tgcccaagga tgtgctcatc gccagcctcc tggatgtgct caacaatgaa
780
gaggcgcagc tgccagaccc ggccatcgag gaccagggtg gggagtacgt gcagcccatg
840
ctgagcaagt acgcggctgt gtgcgtgcgc tgccctggct acggcaccag aaccaacact
900
atcatcctgg tagatgcgga cggccacgtg accttcactg agcgtagcat gatggacaag
960
gacctctccc actgggagac cagaacctat gagttcacac tgcagagcta accccacctc
1020
tgggcctggc cagtgggctc ctggggggcc ctgccttgag gggcactgtg gacaggaaac
1080
cttcctttgc catactgcat tgcactgccc gtggcttggc cagcatcccc cggatcaggg
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1260
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1320
atacactcct gcgtgtgcac aagcacacac atgccaggc
1359


<210> 5106
<211> 178
<212> PRT
<213> Homo sapiens

<400> 5106
Met Ala Gly His Gln His Thr Trp Gln Ala Gly Ser Thr His Gln Leu
 1               5                  10                  15
Pro Ala Ala Ala Ala Gly Leu Ala Gly Pro Arg Ala Ser Thr Ala Lys
                20                  25                  30
Gly Asp Val Ile Cys Tyr Tyr Gly Asn Arg Gly Glu Pro Asp Pro Ile
            35                  40                  45
Val Leu Thr Pro Gly Thr Tyr Gly Leu Ser Asn Ala Leu Leu Glu Thr
        50                  55                  60
Pro Trp Arg Lys Leu Cys Phe Gly Lys Gln Leu Phe Leu Glu Ala Val
65                  70                  75                  80
Glu Arg Ser Gln Ala Leu Pro Lys Asp Val Leu Ile Ala Ser Leu Leu
                85                  90                  95
Asp Val Leu Asn Asn Glu Glu Ala Gln Leu Pro Asp Pro Ala Ile Glu
                100                 105                 110
Asp Gln Gly Gly Glu Tyr Val Gln Pro Met Leu Ser Lys Tyr Ala Ala
            115                 120                 125
Val Cys Val Arg Cys Pro Gly Tyr Gly Thr Arg Thr Asn Thr Ile Ile
```

```
      130                    135                    140
Leu Val Asp Ala Asp Gly His Val Thr Phe Thr Glu Arg Ser Met Met
145                    150                    155                    160
Asp Lys Asp Leu Ser His Trp Glu Thr Arg Thr Tyr Glu Phe Thr Leu
                  165                    170                    175
Gln Ser


<210> 5107
<211> 1207
<212> DNA
<213> Homo sapiens

<400> 5107
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agtcctgcag cccgcaggct ctgctgtgcc tctttggcgt attcctcttg ctcactcccc
120
acagggatga ccaccacctg gaacggggac agccacagtg gccatttccc cccgcagctt
180
tctgccagca ctcccaacag tctttccaca gaaccgagca ctgctcggtg aatgaggact
240
ggacgctcca gggcacccgc cccagtttgt atttatttat ttatttattt atttagagac
300
agagtctcgc tctgtcgcnc taggggggtg cagtggcgca atctcagctc actgcaacct
360
ccacctcccg ggttcaagcg attctcctgc ctcagcctcc tgagtagctg ggattacagg
420
cgtgtgccac catgcccggc taattttttgt attttttagta gagacagggt ttcaccgtgt
480
tagccagggt ggtcttgatc tcctgacctc atgatccgtc cgcctcagcc tcccagagtg
540
ctgggattac aggcatgagc cactgcgcct ggcccaattt attttttttt gtagtttcat
600
tctcctcaca tccaaacagc tacagcttcc ctccttttgt ggggtcccca aaccaagtct
660
cttttcagga gagcagacat gtgcctccac acagttctga agttctgggg gctccacatt
720
gtcagctggg ttggggtctc ccatgtgagg gaggctgatg gcactcgcag gttttttgcct
780
catctatgta caaaggctca gaaaatttct tcggcatttg ggaccctcgt gttctgtagc
840
tccaccagtc gctgcacagc ctcaggcaag tcccactccc caaggcgacg attatctcga
900
gtccgaatgt tcactgttct cttactttgc tctttctggc caaccacaaa ctgaaaattg
960
tagtgggcaa gctgggcccg gcggattctc cggctgaggg tcagtccaga gtctgcatcc
1020
aggtcactga ccagtcctgc agcccgcagg ctctgctgtg cctctttggc gtattcctct
1080
tgctcactcc ccacagggat gaccaccacc tggaacgggg acagccacag tggccccctta
1140
tactggaggt caaatctcag gggcggttgg aagtcaagct gaattgtccc acactgatgt
1200
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ggccggc
1207

<210> 5108
<211> 83
<212> PRT
<213> Homo sapiens

<400> 5108
Met Arg Thr Gly Arg Ser Arg Ala Pro Ala Pro Val Cys Ile Tyr Leu
 1   5   10   15
Phe Ile Tyr Leu Phe Arg Asp Arg Val Ser Leu Cys Arg Xaa Arg Gly
             20   25   30
Val Gln Trp Arg Asn Leu Ser Ser Leu Gln Pro Pro Pro Pro Gly Phe
         35   40   45
Lys Arg Phe Ser Cys Leu Ser Leu Leu Ser Ser Trp Asp Tyr Arg Arg
     50   55   60
Val Pro Pro Cys Pro Ala Asn Phe Cys Ile Phe Ser Arg Asp Arg Val
65   70   75   80
Ser Pro Cys

<210> 5109
<211> 651
<212> DNA
<213> Homo sapiens

<400> 5109
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60
ctgcagnatg cgcagtggac ttttgaatca gctgtgcaag agaatatcag cattaatggg
120
caagcatggc aggaagcttc agataattgt tttatggatt ctgacatcaa agtacttgaa
180
gatcagtttg atgaaatcat agtagatata gccacaaaac gtaagcagta tcccagaaag
240
atcctggaat gtgtcatcaa aaccataaaa gcaaacaag aaattctgaa gcagtaccac
300
cctgttgtac atccactgga cctaaaatat gaccctgatc cagttctcaa cgggaatgct
360
ttcaactttt ccccattcaa catgatgttg gctgtggatt tgtcatatat ggttttattt
420
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480
agtgaagcca tgaagtcctt gcctgcatta attgaacaag gagagggatt ttcccaagtt
540
ctcaggatgc agcctgttat ccacctccag aggattcacc aagaagtctt ttccagttgt
600
cataggaaac cagatgctaa acctgagaac tttataacac agatagaaac c
651

<210> 5110
<211> 206
<212> PRT

<213> Homo sapiens

<400> 5110
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Leu Leu Glu Lys Ile Arg Glu Pro Ala Leu Gln Xaa Ala Gln Trp Thr
1               5                   10              15
Phe Glu Ser Ala Val Gln Glu Asn Ile Ser Ile Asn Gly Gln Ala Trp
            20                  25                  30
Gln Glu Ala Ser Asp Asn Cys Phe Met Asp Ser Asp Ile Lys Val Leu
        35                  40                  45
Glu Asp Gln Phe Asp Glu Ile Ile Val Asp Ile Ala Thr Lys Arg Lys
    50                  55                  60
Gln Tyr Pro Arg Lys Ile Leu Glu Cys Val Ile Lys Thr Ile Lys Ala
65                  70                  75                  80
Lys Gln Glu Ile Leu Lys Gln Tyr His Pro Val Val His Pro Leu Asp
                85                  90                  95
Leu Lys Tyr Asp Pro Asp Pro Val Leu Asn Gly Asn Ala Phe Asn Phe
                100                 105                 110
Ser Pro Phe Asn Met Met Leu Ala Val Asp Leu Ser Tyr Met Val Phe
            115                 120                 125
Ile Thr Ser Ala Pro His Met Glu Asn Leu Lys Cys Arg Gly Glu Thr
        130                 135                 140
Val Ala Lys Glu Ile Ser Glu Ala Met Lys Ser Leu Pro Ala Leu Ile
145                 150                 155                 160
Glu Gln Gly Glu Gly Phe Ser Gln Val Leu Arg Met Gln Pro Val Ile
                165                 170                 175
His Leu Gln Arg Ile His Gln Glu Val Phe Ser Ser Cys His Arg Lys
            180                 185                 190
Pro Asp Ala Lys Pro Glu Asn Phe Ile Thr Gln Ile Glu Thr
            195                 200                 205
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<210> 5111
<211> 2247
<212> DNA
<213> Homo sapiens

<400> 5111
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120
tggtgcgcag  gcgcgggccg  ccgcggcccg  gctctcttgc  gcaagcgcgc  tgtccgcttc
180
ttctgggcgg  acgctctgga  ggcaaaacat  ttccctgctg  ggggcggcga  ccaccgtgag
240
cgtcccggaa  ggggcggcaa  agacgcctcc  gtcgcgcacg  aggtggcctc  gttggcttta
300
ccttggttcg  cggtcgtcct  tggttatcgt  gagcgtccgc  gagtctctgg  gaggccaagc
360
ctagggcgc  cacagcgcct  gcgcgcgtac  ggcggccgga  agggggctaga  ggcggctccc
420
tgggtgacaa  ccgcgcgccc  cacctttccc  cacgtggccg  cgaagaccgg  ctcaggagca
480
tctatcggct  gcacgccaac  atcaacacag  gcgaagatgg  tctccaagcg  cattgcccag
540
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gagacctttg atgcagctgt gcgcgagaac atcgaggagt ttgcgatggg gccagaggag
600
gcagtgaaag aggccgtgga gcagtttgaa tcgcaagggg ttgatctgag caacattgta
660
aagacggcac ctaaagtctc tgcagacgga tcccaggagc ccacacatga catcctgcag
720
atgctcagtg acctccagga gtctgtggcc agctctcgcc cccaggaggt gtcagcatac
780
ctcacccgct tctgcgacca gtgcaaacag gacaaggcct gccgcttcct cgcggcccag
840
aagggggcct accccatcat cttcactgcc aggaagctgg ccactgcagg tgaccagggc
900
cttctgctcc agtccctcaa tgccctgtcg gtgctgactg atggacagcc agacctcctg
960
gatgcccagg gcctgcagct cctagtggcc acgctgaccc agaatgctga tgaggctgac
1020
ctgacctgct ctgggatccg ctgtgtgcgt cacgcttgcc tgaaacatga acagaatcgg
1080
caagacctgg tgaaagctgg cgtgctgcct ctgctgactg gtgccatcac ccatcatggc
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1200
gacatccgtg tgccctttgg ccatgcccac aaccatgcca agatgattgt gcaggagaac
1260
aaaggcttga aggtgctcat cgaagccacc aaagcgttcc tggataaccc tggcatcctg
1320
agcgagctct gtggaaccct gtcccgcctg gccattcgca acgagttctg ccaggaggtc
1380
gtcgacctcg ggggcctgag cattctggtg tccctgctag ccgactgcaa tgaccaccag
1440
atgagggacc agagcggcgt tcaggagctc gtgaagcaag tgctgagcac cctgcgagcc
1500
atcgcaggca cgacgacgt gaaagatgct attgtccgtg ctggtgggac ggagtccatc
1560
gtggctgcta tgacccagca tctgaccagc ccccaggtgt gggagcagag ctgcgcggcc
1620
ctgtgcttcc tggccctgcg taagcccgac aacagccgca tcatcgtgga gggtggcggg
1680
gctgtggcag cactgcaggc catgaaggca cacccgcaga aggccggcgt gcagaaacag
1740
gcttgcatgc tgatccgaaa cctggtggcc cacggccagg ccttctcgaa gcccatcctg
1800
gacctggggg ctgaggcact catcatgcag gcccgatctg cccaccgtga ctgtgaggac
1860
gtggccaagg ccgccctgcg ggacctgggt tgtcatgtcg agctccgaga gctgtggaca
1920
ggccagaggg gcaacctggc gccatgaccc caggcccagt ctgggccgtg actctgggtg
1980
agtcgtgtga ctcaggaatg ggggtagatc catgtcctcc actgtccccc attagttctg
2040
tcccttcac aatgagaagt gttttctggc aggccctagg taaagggtcg ggggaggggg
2100
gagccttgta gggaggcctc tacacagaag aaagcagccc ccatgtccca gccacttctg
2160
```

```
ggtcccagcc agcagcacgg atgttactgt cctgctcctt cccccagccc cacgccctac
2220
cagagggggc aaagggcacg tcccatc
2247
```

<210> 5112
<211> 581
<212> PRT
<213> Homo sapiens

<400> 5112

```
Ala Lys His Phe Pro Ala Gly Gly Gly Asp His Arg Glu Arg Pro Gly
  1               5                  10                  15
Arg Gly Gly Lys Asp Ala Ser Val Ala His Glu Val Ala Ser Leu Ala
              20                  25                  30
Leu Pro Trp Phe Ala Val Val Leu Gly Tyr Arg Glu Arg Pro Arg Val
          35                  40                  45
Ser Gly Arg Pro Ser Leu Gly Ala Pro Gln Arg Leu Arg Ala Tyr Gly
      50                  55                  60
Gly Arg Lys Gly Leu Glu Ala Ala Pro Trp Val Thr Thr Ala Arg Pro
65                  70                  75                  80
Thr Phe Pro His Val Ala Ala Lys Thr Gly Ser Gly Ala Ser Ile Gly
              85                  90                  95
Cys Thr Pro Thr Ser Thr Gln Ala Lys Met Val Ser Lys Arg Ile Ala
             100                 105                 110
Gln Glu Thr Phe Asp Ala Ala Val Arg Glu Asn Ile Glu Glu Phe Ala
         115                 120                 125
Met Gly Pro Glu Glu Ala Val Lys Glu Ala Val Glu Gln Phe Glu Ser
     130                 135                 140
Gln Gly Val Asp Leu Ser Asn Ile Val Lys Thr Ala Pro Lys Val Ser
145                 150                 155                 160
Ala Asp Gly Ser Gln Glu Pro Thr His Asp Ile Leu Gln Met Leu Ser
             165                 170                 175
Asp Leu Gln Glu Ser Val Ala Ser Ser Arg Pro Gln Glu Val Ser Ala
             180                 185                 190
Tyr Leu Thr Arg Phe Cys Asp Gln Cys Lys Gln Asp Lys Ala Cys Arg
         195                 200                 205
Phe Leu Ala Ala Gln Lys Gly Ala Tyr Pro Ile Ile Phe Thr Ala Arg
     210                 215                 220
Lys Leu Ala Thr Ala Gly Asp Gln Gly Leu Leu Leu Gln Ser Leu Asn
225                 230                 235                 240
Ala Leu Ser Val Leu Thr Asp Gly Gln Pro Asp Leu Leu Asp Ala Gln
             245                 250                 255
Gly Leu Gln Leu Leu Val Ala Thr Leu Thr Gln Asn Ala Asp Glu Ala
             260                 265                 270
Asp Leu Thr Cys Ser Gly Ile Arg Cys Val Arg His Ala Cys Leu Lys
         275                 280                 285
His Glu Gln Asn Arg Gln Asp Leu Val Lys Ala Gly Val Leu Pro Leu
     290                 295                 300
Leu Thr Gly Ala Ile Thr His His Gly His His Thr Asp Val Val Arg
305                 310                 315                 320
Glu Ala Cys Trp Ala Leu Arg Val Met Thr Phe Asp Asp Asp Ile Arg
             325                 330                 335
Val Pro Phe Gly His Ala His Asn His Ala Lys Met Ile Val Gln Glu
```

```
                340                      345                      350
Asn Lys Gly Leu Lys Val Leu Ile Glu Ala Thr Lys Ala Phe Leu Asp
            355                      360                      365
Asn Pro Gly Ile Leu Ser Glu Leu Cys Gly Thr Leu Ser Arg Leu Ala
        370                      375                      380
Ile Arg Asn Glu Phe Cys Gln Glu Val Val Asp Leu Gly Gly Leu Ser
385                      390                      395                      400
Ile Leu Val Ser Leu Leu Ala Asp Cys Asn Asp His Gln Met Arg Asp
                405                      410                      415
Gln Ser Gly Val Gln Glu Leu Val Lys Gln Val Leu Ser Thr Leu Arg
                420                      425                      430
Ala Ile Ala Gly Asn Asp Asp Val Lys Asp Ala Ile Val Arg Ala Gly
            435                      440                      445
Gly Thr Glu Ser Ile Val Ala Ala Met Thr Gln His Leu Thr Ser Pro
        450                      455                      460
Gln Val Trp Glu Gln Ser Cys Ala Ala Leu Cys Phe Leu Ala Leu Arg
465                      470                      475                      480
Lys Pro Asp Asn Ser Arg Ile Ile Val Glu Gly Gly Gly Ala Val Ala
                485                      490                      495
Ala Leu Gln Ala Met Lys Ala His Pro Gln Lys Ala Gly Val Gln Lys
            500                      505                      510
Gln Ala Cys Met Leu Ile Arg Asn Leu Val Ala His Gly Gln Ala Phe
        515                      520                      525
Ser Lys Pro Ile Leu Asp Leu Gly Ala Glu Ala Leu Ile Met Gln Ala
    530                      535                      540
Arg Ser Ala His Arg Asp Cys Glu Asp Val Ala Lys Ala Ala Leu Arg
545                      550                      555                      560
Asp Leu Gly Cys His Val Glu Leu Arg Glu Leu Trp Thr Gly Gln Arg
                565                      570                      575
Gly Asn Leu Ala Pro
                580

<210> 5113
<211> 472
<212> DNA
<213> Homo sapiens

<400> 5113
cagactatgg tccagcctct gctccatgtg cccctgtgg gtctttgtga tctcagtcct
60
ggcaccttga cccgctgctt gttctgctct cctttaaact ccatgcacct gacacctgta
120
attggcacgc agcgcggagc ctggcacctg cagtgtagac acactggcca ccgctcagtg
180
caagagggcc cctttgctaa tgtgcacagc tctttatgcc ttttttccta tgcctttttg
240
gattggagca agagattttt ttttccaagt aaagaacaat ttatgttcct aaatactttt
300
tttccttgac atgatgaagt tgagcaaggt ggctatagaa ctttttttct taattttatt
360
gcccaagtaa tgttctttac aaagtaggga aatacagata cataaaaaga agactgccaa
420
tcccccgtaa tcccaccagt cgcatcccta cccgctctta ggagattccg ga
472
```

<210> 5114
<211> 100
<212> PRT
<213> Homo sapiens

<400> 5114
Met Val Gln Pro Leu Leu His Val Pro Pro Val Gly Leu Cys Asp Leu
1   5   10   15
Ser Pro Gly Thr Leu Thr Arg Cys Leu Phe Cys Ser Pro Leu Asn Ser
            20   25   30
Met His Leu Thr Pro Val Ile Gly Thr Gln Arg Gly Ala Trp His Leu
        35   40   45
Gln Cys Arg His Thr Gly His Arg Ser Val Gln Glu Gly Pro Phe Ala
    50   55   60
Asn Val His Ser Ser Leu Cys Leu Phe Ser Tyr Ala Phe Leu Asp Trp
65   70   75   80
Ser Lys Arg Phe Phe Phe Pro Ser Lys Glu Gln Phe Met Phe Leu Asn
                85   90   95
Thr Phe Phe Pro
            100

<210> 5115
<211> 1003
<212> DNA
<213> Homo sapiens

<400> 5115
nttttttttt ttttttttttt ttttttttttt ttttttttttt tttttttttag ccacaaaaca
60
ttttatttac aaaatatata ctgaatacta tacatctggc cccatcacca tggaaacaac
120
tccaaagcct gcctggggat ttgtgcccaa gcccagccca ggagggctag agaaagcaaa
180
ggtgtctacc agccgccgcc atcccagaag gaaagcctct tcccatgagt gcctgtgggt
240
gggcggtgag ctcaacaccc acaaagggca gaaggcctgg gggcagtgag gtgatggtga
300
gggcatggga agcagatgct gctgagggtg ggtggaggga gaaatggaga cccagcaccc
360
agcagggga gccaggtgac agcagggaa gcagatggca gggccccagg cagtccagga
420
ccccaggctc tgaagggtgg ggcaagggg tcaggtcacg tcttgacatc cagcagtggc
480
tccgcttgtg ctggtagccc actctgccca gccatgtccc accttggggt ctcccatgtc
540
agagagcagc tcctgctcag catcatgcag ttcctcagct gggtcatagc tgtacatggg
600
gagcaggtgc atgcgcagcc ggtccacccg cttttcttc tgtacataca ttaccacagc
660
caccaccacc ccgaccaggg tgatgaggaa gaagggcccc aacacatagc ccaccatgga
720
gtcgctgttg gcctgggggg cattgggcac agtggtgtta ctcatgacat cagcagccgg
780

                                    4299

```
agggctgggt ggtcagcatg ggcagtggcg cttcgggagg gcgcctccac tgggctcccc
840
agtcgtatgc tcatcgtccc aggtcaaggg ggcatgccag ggtggggagg gcgtcaggcc
900
gctgctagga tgcgggccag caacagcgga ncaggaggtg gttcccacgg cgctgggnag
960
gctcacgccg gaggtggggg tgttggggga tgctgatggg tcg
1003


<210> 5116
<211> 226
<212> PRT
<213> Homo sapiens


<400> 5116
Met Leu Leu Arg Val Gly Gly Gly Arg Asn Gly Asp Pro Ala Pro Ser
 1               5                   10                  15
Arg Gly Ser Gln Val Thr Ala Gly Glu Ala Asp Gly Arg Ala Pro Gly
            20                  25                  30
Ser Pro Gly Pro Gln Ala Leu Lys Gly Gly Ala Arg Gly Ser Gly His
            35                  40                  45
Val Leu Thr Ser Ser Ser Gly Ser Ala Cys Ala Gly Ser Pro Leu Cys
        50                  55                  60
Pro Ala Met Ser His Leu Gly Val Ser His Val Arg Glu Gln Leu Leu
65                  70                  75                  80
Leu Ser Ile Met Gln Phe Leu Ser Trp Val Ile Ala Val His Gly Glu
                85                  90                  95
Gln Val His Ala Gln Pro Val His Pro Leu Phe Leu Leu Tyr Ile His
            100                 105                 110
Tyr His Ser His His His Pro Asp Gln Gly Asp Glu Glu Glu Gly Pro
        115                 120                 125
Gln His Ile Ala His His Gly Val Ala Val Gly Leu Gly Gly Ile Gly
        130                 135                 140
His Ser Gly Val Thr His Asp Ile Ser Ser Arg Arg Ala Gly Trp Ser
145                 150                 155                 160
Ala Trp Ala Val Ala Leu Arg Glu Gly Ala Ser Thr Gly Leu Pro Ser
                165                 170                 175
Arg Met Leu Ile Val Pro Gly Gln Gly Gly Met Pro Gly Trp Gly Gly
            180                 185                 190
Arg Gln Ala Ala Ala Arg Met Arg Ala Ser Asn Ser Gly Xaa Gly Gly
            195                 200                 205
Gly Ser His Gly Ala Gly Xaa Ala His Ala Gly Gly Gly Gly Val Gly
        210                 215                 220
Gly Cys
225


<210> 5117
<211> 1180
<212> DNA
<213> Homo sapiens


<400> 5117
nngaattcaa cttgttcaag agaaggtctt gtacgtgcct aagttctaga gcctcctgac
60
```

gtgagcatgg ctgagagtga ggaccgctcc ctgaggatcg ttctggtagg gaaaactgga
120
agtgggaaaa gtgcaacagc gaacaccatc cttggagagg aaatctttga ttctagaatt
180
gctgcccaag ctgttaccaa gaactgtcaa aaagcatccc gggaatggca ggggagagac
240
cttcttgttg tagacactcc agggctcttt gacaccaagg agagcctgga caccacctgc
300
aaggaaatca gccgctgcat catctcctcc tgcccagggc cccatgctat tgtcctagtt
360
ctgctgctgg ccgctacac agaggaggag cagaaaccg ttgcattgat caaggctgtc
420
tttgggaagt cagccatgaa gcacatggtc atcttgttca ctcgcaaaga agagttggag
480
ggccagagct ccatgactt catagcagat gcggatgtgg gcctaaaaag catcgtcaag
540
gagtgcggga accgctgctg tgcctttagc aacagcaaga aaaccagtaa ggcagagaag
600
gaaagtcaag tgcaggagtt ggtggagctg atagagaaaa tggtgcagtg caacgaaggg
660
gcttactttt ctgatgacat atacaaggac acagaggaaa ggctgaaaca acgggaagag
720
gttttgagga aaatctacac tgaccaatta aatgaagaaa ttaaactagt agaagaggat
780
aagcataaat cagaggaaga aaaggagaaa gaaattaaat tactaaaatt aaaatatgat
840
gaaaaaataa aaaatataag ggaagaagct gagagaaata tatttaaaga tgtttttaat
900
aggatttgga agatgctttc agaaatatgg cataggtttt tgtcgaaatg taagtttttat
960
tcttcctaat ttactgtgat ttgttaatgg atgaattgta ttttgcaaag atagttagag
1020
aaatacctcc ttccccttag ctttattaag gtatcattga taaataaaaa taaaatatgt
1080
ttaatgtata taatgtgatt tttaaatata tatatatata tatacacaca ttgtgaaata
1140
atgaaataaa ggtaattaac acatctaaaa aaaaaaaaaa
1180

<210> 5118
<211> 300
<212> PRT
<213> Homo sapiens

<400> 5118
Met Ala Glu Ser Glu Asp Arg Ser Leu Arg Ile Val Leu Val Gly Lys
1   5   10   15
Thr Gly Ser Gly Lys Ser Ala Thr Ala Asn Thr Ile Leu Gly Glu Glu
            20   25   30
Ile Phe Asp Ser Arg Ile Ala Ala Gln Ala Val Thr Lys Asn Cys Gln
        35   40   45
Lys Ala Ser Arg Glu Trp Gln Gly Arg Asp Leu Leu Val Val Asp Thr
    50   55   60
Pro Gly Leu Phe Asp Thr Lys Glu Ser Leu Asp Thr Thr Cys Lys Glu

```
65                    70                    75                    80
Ile Ser Arg Cys Ile Ile Ser Ser Cys Pro Gly Pro His Ala Ile Val
                        85                    90                    95
Leu Val Leu Leu Leu Gly Arg Tyr Thr Glu Glu Glu Gln Lys Thr Val
                100                   105                   110
Ala Leu Ile Lys Ala Val Phe Gly Lys Ser Ala Met Lys His Met Val
            115                   120                   125
Ile Leu Phe Thr Arg Lys Glu Glu Leu Glu Gly Gln Ser Phe His Asp
        130                   135                   140
Phe Ile Ala Asp Ala Asp Val Gly Leu Lys Ser Ile Val Lys Glu Cys
145                   150                   155                   160
Gly Asn Arg Cys Cys Ala Phe Ser Asn Ser Lys Lys Thr Ser Lys Ala
                165                   170                   175
Glu Lys Glu Ser Gln Val Gln Glu Leu Val Glu Leu Ile Glu Lys Met
                180                   185                   190
Val Gln Cys Asn Glu Gly Ala Tyr Phe Ser Asp Asp Ile Tyr Lys Asp
            195                   200                   205
Thr Glu Glu Arg Leu Lys Gln Arg Glu Glu Val Leu Arg Lys Ile Tyr
        210                   215                   220
Thr Asp Gln Leu Asn Glu Glu Ile Lys Leu Val Glu Glu Asp Lys His
225                   230                   235                   240
Lys Ser Glu Glu Glu Lys Glu Lys Glu Ile Lys Leu Leu Lys Leu Lys
                245                   250                   255
Tyr Asp Glu Lys Ile Lys Asn Ile Arg Glu Glu Ala Glu Arg Asn Ile
                260                   265                   270
Phe Lys Asp Val Phe Asn Arg Ile Trp Lys Met Leu Ser Glu Ile Trp
            275                   280                   285
His Arg Phe Leu Ser Lys Cys Lys Phe Tyr Ser Ser
        290                   295                   300
```

```
<210> 5119
<211> 1450
<212> DNA
<213> Homo sapiens
```

```
<400> 5119
nnaatgatga atatcaaaga ttaaagcact tcactaaatc ttgtattttt tcccaaaata
60
cagctggtga aaatcttatc cttgagtaga aaggaatcaa acaagtcata taccacccgt
120
cttcctgtct gtactggaac catcacaggc ttttgaggaa ctacttttga accgttcccc
180
agagaggcat ttgccccagt agctatgatt ataatttgca atgacagcca cagtgatttc
240
atccttctgg gcttctctaa caagccacat ttggagaaga tacttttttng gatcattttt
300
attttttatt ttttgactct tgcaggaaat atggtcatag ttcttgtgtc cttgaaggat
360
ccaaaactcc acatccctat gtatttcttt ctttccaacc tttccttggt agacctctgt
420
ttgaccagca gctgtgttcc acagatgttg attaacttct ggggcccaga aaagaccatc
480
agctacattg gctgtgccat tcaactctat gtttttttgt ggcttggggc cacggaatat
540
```

```
gtccttcttg ttgtcatggc tgtggattgt tatgtagcag tgtgtcatcc actgcaaaat
600
accatgatca tgcacccaaa actttgtctg cagctggcta tcttggcatg ggggactggc
660
ttggcccagt ctctgatcca gtcccctgcc accctccggt tacccttctg ctcccagcgg
720
atggtggatg atgttgtttg tgaagtccca gctctgattc agctctccag tactgatact
780
acctacagtg aaattcagat gtctatcgcc agtgttgtcc tcctggtgat gcccttgatc
840
attatccttt cctcttctgg tgctattgct aaggctgtgc tgagaattaa gtcaactgca
900
ggacagaaga aagcatttgg cacctgcatc tctcaccttc ttgtggtttc tctcttttat
960
ggcactgtca caggtgtcta ccttcaacca aaaaatcact atcctcatga atggggcaaa
1020
tttctcactc ttttctacac tgtagtaacc ccaactctta atcccctcat ctacactcta
1080
aggaacaagg aggtaaaggg agcactaata agattgggga ggaggacctg ggattcccag
1140
aataactaac aaggttaaca tatgtttacc tttgcttaac ctaagaatag agaacaacct
1200
catcacaaaa agctggagat acacctccta agccaaaagt aggagagaaa gagctgcatt
1260
ctgttcaggt tgagatttca gtttccttca tcaatcaatt gggcccttaa attcttcata
1320
ttgtggattt agacacagta tggtataaaa attaatatat ttaatagcta ttgtcttgaa
1380
aaggacacaa tgcaattgaa tgggggagga ggagaagaca caagaaacac attacttgca
1440
aaataaaata
1450


<210> 5120
<211> 314
<212> PRT
<213> Homo sapiens

<400> 5120
Met Ile Ile Ile Cys Asn Asp Ser His Ser Asp Phe Ile Leu Leu Gly
 1               5                  10                  15
Phe Ser Asn Lys Pro His Leu Glu Lys Ile Leu Phe Xaa Ile Ile Phe
            20                  25                  30
Ile Phe Tyr Phe Leu Thr Leu Ala Gly Asn Met Val Ile Val Leu Val
        35                  40                  45
Ser Leu Lys Asp Pro Lys Leu His Ile Pro Met Tyr Phe Phe Leu Ser
    50                  55                  60
Asn Leu Ser Leu Val Asp Leu Cys Leu Thr Ser Ser Cys Val Pro Gln
65                  70                  75                  80
Met Leu Ile Asn Phe Trp Gly Pro Glu Lys Thr Ile Ser Tyr Ile Gly
                85                  90                  95
Cys Ala Ile Gln Leu Tyr Val Phe Leu Trp Leu Gly Ala Thr Glu Tyr
            100                 105                 110
Val Leu Leu Val Val Met Ala Val Asp Cys Tyr Val Ala Val Cys His
```

```
            115                    120                    125
Pro Leu Gln Asn Thr Met Ile Met His Pro Lys Leu Cys Leu Gln Leu
    130                    135                    140
Ala Ile Leu Ala Trp Gly Thr Gly Leu Ala Gln Ser Leu Ile Gln Ser
145                    150                    155                    160
Pro Ala Thr Leu Arg Leu Pro Phe Cys Ser Gln Arg Met Val Asp Asp
                165                    170                    175
Val Val Cys Glu Val Pro Ala Leu Ile Gln Leu Ser Ser Thr Asp Thr
            180                    185                    190
Thr Tyr Ser Glu Ile Gln Met Ser Ile Ala Ser Val Val Leu Leu Val
        195                    200                    205
Met Pro Leu Ile Ile Ile Leu Ser Ser Ser Gly Ala Ile Ala Lys Ala
    210                    215                    220
Val Leu Arg Ile Lys Ser Thr Ala Gly Gln Lys Lys Ala Phe Gly Thr
225                    230                    235                    240
Cys Ile Ser His Leu Leu Val Val Ser Leu Phe Tyr Gly Thr Val Thr
                245                    250                    255
Gly Val Tyr Leu Gln Pro Lys Asn His Tyr Pro His Glu Trp Gly Lys
            260                    265                    270
Phe Leu Thr Leu Phe Tyr Thr Val Val Thr Pro Thr Leu Asn Pro Leu
        275                    280                    285
Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Gly Ala Leu Ile Arg Leu
    290                    295                    300
Gly Arg Arg Thr Trp Asp Ser Gln Asn Asn
305                    310
```

```
<210> 5121
<211> 944
<212> DNA
<213> Homo sapiens
```

```
<400> 5121
nngcgcgcca ggggagggcg ccgtgtggca ctcggcggtc gaaaggggag ttcaaggaga
60
cgggggcgac gcggctgagg gcttctcgtc ggggtcgggg ctgcagccgt catgccgggg
120
atagtggagc tgcccactct agaggagctg aaagtagatg aggtgaaaat tagttctgct
180
gtgcttaaag ctgcggccca tcactatgga gctcaatgtg ataagcccaa caaggagttt
240
atgctctgcc gctgggaaga gaaagatccg aggcggtgtt tagaggaagg caaactggtc
300
aacaagtgtg ctttggactt ctttaggcag ataaaacgtc actgtgcaga gccttttaca
360
gaatattgga cttgcattga ttatactggc cagcagttat ttcgtcactg tcgcaaacag
420
caggcaaagt ttgacgagtg tgtgctggac aaactgggct gggtgcggcc tgacctggga
480
gaactgtcaa aggtcaccaa agtgaaaaca gatcgacctt taccggagaa tccctatcac
540
tcaagaccaa gaccggatcc cagccctgag atcgagggag atctgcagcc tgccacacat
600
ggcagccgct tttatttctg gaccaagtaa agatgggtcc gtggcccaca ctcggtcatg
660
```

```
tgctcagaca acgactgatg aaaacgccca tgcggtttgc atcgactgat agtgtgttct
720
ttccgggatc acaaacatta acaaaaaagt taacttatgt gacttggcag ttattctata
780
ccatttcctg tccattaaaa tttttaaagg aaacggttgt attttattat gttttatgtg
840
acctttggc ctttaaagat gacttcccct tgcttttttc ttcttgtggt cctgcctgtt
900
cctcttgctt tgctttaggc actcgctcat gtggctgggg atcc
944
```

```
<210> 5122
<211> 172
<212> PRT
<213> Homo sapiens
```

```
<400> 5122
Met Pro Gly Ile Val Glu Leu Pro Thr Leu Glu Glu Leu Lys Val Asp
  1               5                  10                  15
Glu Val Lys Ile Ser Ser Ala Val Leu Lys Ala Ala Ala His His Tyr
              20                  25                  30
Gly Ala Gln Cys Asp Lys Pro Asn Lys Glu Phe Met Leu Cys Arg Trp
          35                  40                  45
Glu Glu Lys Asp Pro Arg Arg Cys Leu Glu Glu Gly Lys Leu Val Asn
      50                  55                  60
Lys Cys Ala Leu Asp Phe Phe Arg Gln Ile Lys Arg His Cys Ala Glu
65                  70                  75                  80
Pro Phe Thr Glu Tyr Trp Thr Cys Ile Asp Tyr Thr Gly Gln Gln Leu
                  85                  90                  95
Phe Arg His Cys Arg Lys Gln Gln Ala Lys Phe Asp Glu Cys Val Leu
              100                 105                 110
Asp Lys Leu Gly Trp Val Arg Pro Asp Leu Gly Glu Leu Ser Lys Val
              115                 120                 125
Thr Lys Val Lys Thr Asp Arg Pro Leu Pro Glu Asn Pro Tyr His Ser
          130                 135                 140
Arg Pro Arg Pro Asp Pro Ser Pro Glu Ile Glu Gly Asp Leu Gln Pro
145                 150                 155                 160
Ala Thr His Gly Ser Arg Phe Tyr Phe Trp Thr Lys
                  165                 170
```

```
<210> 5123
<211> 1139
<212> DNA
<213> Homo sapiens
```

```
<400> 5123
nngtgcacaa ccactgtctt cccgtggcct cactgccccc ttgccctagg gccccttcct
60
tggctctgtg ccagcctcgg gggacctcag gctcaccaac tctgaggctg agagttccaa
120
agccatagga tagatcctgg agcttccctg agcctgtttt cttgcctggg agttagccat
180
gccttgtggg gctgccaaga gggtaaagta gagagatggg tctagcttga tacagtatag
240
```

4305

gcagctgctg gatgtcagct gtggttatga tcagctccat cttgttatga tgaagaccct
300

gaggtcagag tggaccccac cccaaagccc catctggcag ctcacagctg ctctctccta
360

cagaaacagg cttgcatgct gatccgaaac ctggtggccc acggccaggc cttctcgaag
420

cccatcctgg acctgggggc tgaggcactc atcatgcagg cccgatctgc ccaccgtgac
480

tgtgaggacg tggccaaggc cgccctgcgg gacctgggtt gtcatgtcga gctccgagag
540

ctgtggacag gccagagggg caacctggcg ccatgacccc aggcccagtc tgggccgtga
600

ctctgggtga gtcgtgtgac tcaggaatgg gggtagatcc atgtcctcca ctgtcccccca
660

ttagttctgt ccccttcaca atgagaagtg ttttctggca ggccctaggt aaagggtcgg
720

gggagggggg agccttgtag ggaggcctct acacagaaga aagcagcccc catgtcccag
780

ccacttctgg gtcccagcca gcagcacgga tgttactgtc ctgctccttc ccccagcccc
840

acgccctacc agaggggca aagggcacgt cccatcactc actgccctgt ctgaaatgtg
900

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960

ggcgcctgct gcttactgca gtttcatgca ggcctctgct ccttgtcttt cttacctgta
1020

aaatgggtct cagatgctcc gccctgcttg gccccagctt gtctgtctct gggtcctggg
1080

ccagccagga tacctgataa taaaagatca ttgggtgaaa aaaaaaaaaa aaaaaaaaa
1139

<210> 5124
<211> 101
<212> PRT
<213> Homo sapiens

<400> 5124
Ser Ala Pro Ser Cys Tyr Asp Glu Asp Pro Glu Val Arg Val Asp Pro
1   5   10   15
Thr Pro Lys Pro His Leu Ala Ala His Ser Cys Ser Leu Leu Gln Lys
            20   25   30
Gln Ala Cys Met Leu Ile Arg Asn Leu Val Ala His Gly Gln Ala Phe
        35   40   45
Ser Lys Pro Ile Leu Asp Leu Gly Ala Glu Ala Leu Ile Met Gln Ala
    50   55   60
Arg Ser Ala His Arg Asp Cys Glu Asp Val Ala Lys Ala Ala Leu Arg
65   70   75   80
Asp Leu Gly Cys His Val Glu Leu Arg Glu Leu Trp Thr Gly Gln Arg
                85   90   95
Gly Asn Leu Ala Pro
            100

<210> 5125
<211> 6244

<212> DNA
<213> Homo sapiens

<400> 5125
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120
tcctcagtcc cacgtctcca ggcaacctgc ctcagcctga gtccttcagt ccaccatcat
180
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240
aggacgatta ttacagcccc catgggatgc tggctaacgg gtctcgtgga gacctcttgg
300
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360
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420
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480
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1080
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1140
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1500

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2160
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2280
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3120
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4740
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6240
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6244
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<210> 5126

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<211> 117
<212> PRT
<213> Homo sapiens

<400> 5126
Met Phe Lys Arg Arg Phe Val Gly Val Arg Pro Ile Cys Phe His Cys
1               5                   10                  15
Thr Phe Ser Gly Leu Val Ser Thr Phe Glu Val Val Leu Trp Leu Asn
            20                  25                  30
Phe Ser Cys Ser Phe Cys Val Val Phe Arg Gly Gly Ser Pro His Ala
            35                  40                  45
Glu Ile Leu Cys Met Gln Pro Thr Gly Lys Arg Pro Pro Gly Ser Gln
        50                  55                  60
Asp Phe Ser Phe Ser Cys Leu Cys Pro Ala Thr Cys Ser Leu Pro Leu
65                  70                  75                  80
Phe Arg Cys Gln Arg Gly Asp Phe Arg Ala Val Cys Phe Asn Pro Gly
                85                  90                  95
Arg Ser Asp Thr Leu Val Ser Phe Phe Gln Glu Thr Ile Ala Phe Thr
                100                 105                 110
Asp Val Leu Val Val
            115

<210> 5127
<211> 400
<212> DNA
<213> Homo sapiens

<400> 5127
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120
atgtcagccg gctctgcagc ccctgcctca tcgactacga tttcgtaggc aagttcgaga
180
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240
tcccccggtt caaggaccgg cactcgcagg aggcgcggac cacagcgagg atcgcccacc
300
agtacttcgc ccaactctcg gccctgcaaa ggcagcgcac ctacgacttc tactacatgg
360
attacctgat gttcaactat tccaagccct ttgcagatct
400

<210> 5128
<211> 55
<212> PRT
<213> Homo sapiens

<400> 5128
Gly Thr Ala Pro Met Pro Leu Gly Arg Pro Cys Gly Pro Ala Leu Gly
1               5                   10                  15
Cys Val Phe Pro Ser Ser Ser Ser Thr Cys Trp Thr Cys Thr Gly Pro
            20                  25                  30
Trp Gly Trp Thr Phe Thr Gly Thr Met Ser Ala Gly Ser Ala Ala Pro
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        35                  40                      45
Ala Ser Ser Thr Thr Ile Ser
    50                  55


<210> 5129
<211> 745
<212> DNA
<213> Homo sapiens


<400> 5129
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aggccaagac ccccgcctgt gtctctgttc actggcagcg gagcgaggag agaggtgtgg
120
gctgacctga aaccagcacc tcctgtgtcc ccagctgagc cctgcacggg attggccaaa
180
tgtgctgctc tgcggccgcc ctgctgcccc ccccctgggt ggagctgggg tctgggacag
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300
acccagaaac atgctctgat agtgcagctg tgagcactgg cctgcgtccc ctccacccag
360
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420
tcatccaggc agcctgcaca acccctggct cccctccacc ggccacctgc ccccctgcac
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tcctatcttg gggatgcttt cctccctttg ccgagagacc cacccccccc acaccttgcc
600
tctcttcaag gagccgaaaa tgcagctgcc gactgatttg ctgtggagct aaaaataact
660
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720
agaccgccat tgctaggcga cgcgt
745


<210> 5130
<211> 111
<212> PRT
<213> Homo sapiens


<400> 5130
Met Ala Val Ser Arg Gln Arg Leu Ser Pro Ser Asn Gly Ile Phe Ser
1               5                   10                  15
Trp Ala Leu Ala Gly Ala Arg Gln Leu Phe Leu Ala Pro Gln Gln Ile
            20                  25                  30
Ser Arg Gln Leu His Phe Arg Leu Leu Glu Glu Arg Gln Gly Val Gly
        35                  40                  45
Gly Val Gly Leu Ser Ala Lys Gly Gly Lys His Pro Gln Asp Arg Asn
    50                  55                  60
Leu Ala Ala Val Gly Pro Glu Val Gln Ala Cys Gly Trp Ala Arg Pro
65                  70                  75                  80
Asp Pro Ala Cys Ala Gly Gly Gln Val Ala Gly Gly Gly Glu Pro Gly
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<pre>
                   85   90   95
Val Val Gln Ala Ala Trp Met Ser Arg Gln Leu Gly Leu Cys Pro
              100   105   110
</pre>

<210> 5131
<211> 789
<212> DNA
<213> Homo sapiens

<400> 5131
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120
taccagggcc gtgagctcta tgagcggcca ccccatctct atgctgtggc caacgccgcc
180
tacaaggcaa tgaagcaccg gtccagggac acctgcatcg tcatctcagg ggagagtggg
240
gcagggaaga cagaagccag taagcacatc atgcagtaca tcgctgctgt caccaatcca
300
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420
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480
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600
gctgtataca atttcacaca ccagggagca ggactcaaca tgactgtgca cagtgccttg
660
gacagtgatg agcagagcca ccaggcagtg accgaggcca tgagggtcat cggcttcagt
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789
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<210> 5132
<211> 263
<212> PRT
<213> Homo sapiens

<400> 5132
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Met Arg Asn Leu Gln Leu Arg Phe Glu Lys Gly Arg Ile Tyr Thr Tyr
  1   5   10   15
Ile Gly Glu Val Leu Val Ser Val Asn Pro Tyr Gln Glu Leu Pro Leu
             20   25   30
Tyr Gly Pro Glu Ala Ile Ala Gln Tyr Gln Gly Arg Glu Leu Tyr Glu
         35   40   45
Arg Pro Pro His Leu Tyr Ala Val Ala Asn Ala Ala Tyr Lys Ala Met
     50   55   60
Lys His Arg Ser Arg Asp Thr Cys Ile Val Ile Ser Gly Glu Ser Gly
</pre>

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65                     70                     75                     80
Ala Gly Lys Thr Glu Ala Ser Lys His Ile Met Gln Tyr Ile Ala Ala
                   85                     90                     95
Val Thr Asn Pro Ser Gln Arg Ala Glu Val Glu Arg Val Lys Asp Val
               100                    105                    110
Leu Leu Lys Ser Thr Cys Val Leu Glu Ala Phe Gly Asn Ala Arg Thr
           115                    120                    125
Asn Arg Asn His Asn Ser Ser Arg Phe Gly Lys Tyr Met Asp Ile Asn
       130                    135                    140
Phe Asp Phe Lys Gly Asp Pro Ile Gly Gly His Ile His Ser Tyr Leu
145                    150                    155                    160
Leu Glu Lys Ser Arg Val Leu Lys Gln His Val Gly Glu Arg Asn Phe
               165                    170                    175
His Ala Phe Tyr Gln Leu Leu Arg Gly Ser Glu Asp Lys Gln Leu His
               180                    185                    190
Glu Leu His Leu Glu Arg Asn Pro Ala Val Tyr Asn Phe Thr His Gln
           195                    200                    205
Gly Ala Gly Leu Asn Met Thr Val His Ser Ala Leu Asp Ser Asp Glu
       210                    215                    220
Gln Ser His Gln Ala Val Thr Glu Ala Met Arg Val Ile Gly Phe Ser
225                    230                    235                    240
Pro Glu Glu Val Glu Ser Val His Arg Ile Leu Ala Ala Ile Leu His
               245                    250                    255
Leu Gly Asn Ile Glu Phe Val
               260
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<210> 5133
<211> 581
<212> DNA
<213> Homo sapiens

<400> 5133
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tgaccgacca gacagaaatg ttcggcagcc tcaggaaggt ttttggaaaa ggccacccca
180
gaggtggagt ggacaggagc attaccacct cagccaccct gaccactatc atcaccatgg
240
aaaaagtgac ttgagcagag gctctcccta tagagaatct cctttgggtc attttgaaag
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360
agtgatactg gatgagatga cccttcggca catggttcag gattgcactg ctgtaaaaac
420
tcagttactc aaactgaaac gtctcctgca tcagcatgat ggaagtggtt cattgcatga
480
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540
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581

<210> 5134
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<211> 157
<212> PRT
<213> Homo sapiens

<400> 5134
Met Asn Arg Phe Asp Arg Pro Asp Arg Asn Val Arg Gln Pro Gln Glu
1               5                   10                  15
Gly Phe Trp Lys Arg Pro Pro Gln Arg Trp Ser Gly Gln Glu His Tyr
            20                  25                  30
His Leu Ser His Pro Asp His Tyr His His His Gly Lys Ser Asp Leu
        35                  40                  45
Ser Arg Gly Ser Pro Tyr Arg Glu Ser Pro Leu Gly His Phe Glu Ser
    50                  55                  60
Tyr Gly Gly Met Pro Phe Phe Gln Ala Gln Lys Met Phe Val Asp Val
65                  70                  75                  80
Pro Glu Asn Thr Val Ile Leu Asp Glu Met Thr Leu Arg His Met Val
                85                  90                  95
Gln Asp Cys Thr Ala Val Lys Thr Gln Leu Leu Lys Leu Lys Arg Leu
            100                 105                 110
Leu His Gln His Asp Gly Ser Gly Ser Leu His Asp Ile Gln Leu Ser
        115                 120                 125
Leu Pro Ser Ser Pro Glu Pro Glu Asp Gly Asp Lys Val Tyr Lys Asn
    130                 135                 140
Glu Asp Leu Leu Asn Glu Ile Lys Gln Leu Lys Asp Glu
145                 150                 155

<210> 5135
<211> 1696
<212> DNA
<213> Homo sapiens

<400> 5135
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aaagcggcgc agctgccctg ggaggacggc aggtccgggt tgctctccgg cggcctccct
120
cggaagtgtt ccgtcttcca cctgttcgtg gcctgcctct cgctgggctt cttctcccta
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660
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780
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1680
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1696

<210> 5136
<211> 341
<212> PRT
<213> Homo sapiens

<400> 5136
Xaa Cys Glu Arg Leu Pro His Ala Pro Pro Pro Leu Arg Thr Met Phe
1   5   10   15
Pro Ser Arg Arg Lys Ala Ala Gln Leu Pro Trp Glu Asp Gly Arg Ser
            20   25   30
Gly Leu Leu Ser Gly Gly Leu Pro Arg Lys Cys Ser Val Phe His Leu
        35   40   45
Phe Val Ala Cys Leu Ser Leu Gly Phe Phe Ser Leu Leu Trp Leu Gln
    50   55   60
Leu Ser Cys Ser Gly Asp Val Ala Arg Ala Val Arg Gly Gln Gly Gln
65   70   75   80
Glu Thr Ser Gly Pro Pro Arg Ala Cys Pro Pro Glu Pro Pro Pro Glu

4316

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                    85                      90                      95
His Trp Glu Glu Asp Ala Ser Trp Gly Pro His Arg Leu Ala Val Leu
                   100                     105                     110
Val Pro Phe Arg Glu Arg Phe Glu Glu Leu Leu Val Phe Val Pro His
                   115                     120                     125
Met Arg Arg Phe Leu Ser Arg Lys Lys Ile Arg His His Ile Tyr Val
         130                     135                     140
Leu Asn Gln Val Asp His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn
145                     150                     155                     160
Val Gly Phe Leu Glu Ser Ser Asn Ser Thr Asp Tyr Ile Ala Met His
                   165                     170                     175
Asp Val Asp Leu Leu Pro Leu Asn Glu Glu Leu Asp Tyr Gly Phe Pro
                   180                     185                     190
Glu Ala Gly Pro Phe His Val Ala Ser Pro Glu Leu His Pro Leu Tyr
         195                     200                     205
His Tyr Lys Thr Tyr Val Gly Gly Ile Leu Leu Leu Ser Lys Gln His
         210                     215                     220
Tyr Arg Leu Cys Asn Gly Met Ser Asn Arg Phe Trp Gly Trp Gly Arg
225                     230                     235                     240
Glu Asp Asp Glu Phe Tyr Arg Arg Ile Lys Gly Ala Gly Leu Gln Leu
                   245                     250                     255
Phe Arg Pro Ser Gly Ile Thr Thr Gly Tyr Lys Thr Phe Arg His Leu
                   260                     265                     270
His Asp Pro Ala Trp Arg Lys Arg Asp Gln Lys Arg Ile Ala Ala Gln
         275                     280                     285
Lys Gln Glu Gln Phe Lys Val Asp Arg Glu Gly Gly Leu Asn Thr Val
         290                     295                     300
Lys Tyr His Val Ala Ser Arg Thr Ala Leu Ser Val Gly Gly Ala Pro
305                     310                     315                     320
Cys Thr Val Leu Asn Ile Met Leu Asp Cys Asp Lys Thr Ala Thr Pro
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Trp Cys Thr Phe Ser
                   340


<210> 5137
<211> 3090
<212> DNA
<213> Homo sapiens

<400> 5137
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120
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180
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240
cgtcactttc gctgcgttgg aggctgagga gaattgagcc tgggaggcgg gtccggagag
300
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420
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4317

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540
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660
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780
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1260
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1380
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1740
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1800
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1920
caggaggttc agaggggaag gaggaaaggc caggctggag gctgggctgt agcacttcc
1980
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2040
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acataggccc tgtccttagt cctgtgccct gtttgacttt tggccaggag gccttttttgt
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2280
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2340
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2880
catggattaa atatgcattg acgcggagcc atggttcatc atctgtggga gaggagggga
2940
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3000
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3090

<210> 5138
<211> 371
<212> PRT
<213> Homo sapiens

<400> 5138
Met Glu Leu Glu Leu Asp Ala Gly Asp Gln Asp Leu Leu Ala Phe Leu
1   5   10   15
Leu Glu Glu Ser Gly Asp Leu Gly Thr Ala Pro Asp Glu Ala Val Arg
            20   25   30
Ala Pro Leu Asp Trp Ala Leu Pro Leu Ser Glu Val Pro Ser Asp Trp
        35   40   45
Glu Val Asp Asp Leu Leu Cys Ser Leu Leu Ser Pro Pro Ala Ser Leu
    50   55   60
Asn Ile Leu Ser Ser Ser Asn Pro Cys Leu Val His His Asp His Thr
65   70   75   80
Tyr Ser Leu Pro Arg Glu Thr Val Ser Met Asp Leu Glu Ser Glu Ser

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                      85                   90                   95
Cys Arg Lys Glu Gly Thr Gln Met Thr Pro Gln His Met Glu Glu Leu
                100                  105                  110
Ala Glu Gln Glu Ile Ala Arg Leu Val Leu Thr Asp Glu Glu Lys Ser
            115                  120                  125
Leu Leu Glu Lys Glu Gly Leu Ile Leu Pro Glu Thr Leu Pro Leu Thr
        130                  135                  140
Lys Thr Glu Glu Gln Ile Leu Lys Arg Val Arg Arg Lys Ile Arg Asn
145                  150                  155                  160
Lys Arg Ser Ala Gln Glu Ser Arg Arg Lys Lys Lys Val Tyr Val Gly
                165                  170                  175
Gly Leu Glu Ser Arg Val Leu Lys Tyr Thr Ala Gln Asn Met Glu Leu
                180                  185                  190
Gln Asn Lys Val Gln Leu Leu Glu Glu Gln Asn Leu Ser Leu Leu Asp
            195                  200                  205
Gln Leu Arg Lys Leu Gln Ala Met Val Ile Glu Ile Ser Asn Lys Thr
        210                  215                  220
Ser Ser Ser Ser Thr Cys Ile Leu Val Leu Leu Val Ser Phe Cys Leu
225                  230                  235                  240
Leu Leu Val Pro Ala Met Tyr Ser Ser Asp Thr Arg Gly Ser Leu Pro
                245                  250                  255
Ala Glu His Gly Val Leu Ser Arg Gln Leu Arg Ala Leu Pro Ser Glu
            260                  265                  270
Asp Pro Tyr Gln Leu Glu Leu Pro Ala Leu Gln Ser Glu Val Pro Lys
        275                  280                  285
Asp Ser Thr His Gln Trp Leu Asp Gly Ser Asp Cys Val Leu Gln Ala
    290                  295                  300
Pro Gly Asn Thr Ser Cys Leu Leu His Tyr Met Pro Gln Ala Pro Ser
305                  310                  315                  320
Ala Glu Pro Pro Leu Glu Trp Pro Phe Pro Asp Leu Phe Ser Glu Pro
                325                  330                  335
Leu Cys Arg Gly Pro Ile Leu Pro Leu Gln Ala Asn Leu Thr Arg Lys
            340                  345                  350
Gly Gly Trp Leu Pro Thr Gly Ser Pro Ser Val Ile Leu Gln Asp Arg
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Tyr Ser Gly
        370
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<210> 5139
<211> 1968
<212> DNA
<213> Homo sapiens

<400> 5139
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120
atctctacgg tagaattcaa ccacacggga gaattactag cgacaggga caaggggggt
180
cgggttgtaa tatttcaacg agagcaggag agtaaaaatc aggttcatcg tagggtgaa
240
tacaatgttt acagcacatt ccagagccat gaacccgagt tcgattacct gaagagttta
300
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gaaatagaag aaaaaatcaa taaaataaga tggctccccc agcagaatgc agcttacttt
360
cttctgtcta ctaatgataa aactgtgaag ctgtggaaag tcagcgagcg tgataagagg
420
ccagaaggct acaatctgaa agatgaggag ggccggctcc gggatcctgc caccatcaca
480
accctgcggg tgcctgtcct gagacccatg gacctgatgg tggaggccac cccacgaaga
540
gtatttgcca acgcacacac atatcacatc aactccatat ctgtcaacag cgactatgaa
600
acctacatgt ccgctgatga cctgaggatt aacctatgga actttgaaat aaccaatcaa
660
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720
gcagccgagt tccacccccca tcattgcaac accttcgtgt acagcagcag caaagggaca
780
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1320
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1680
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caggctcagg cggccccact cacccacagc atccgccgcc accccttcgg gtgtgagcgc
1920
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tcaataaaaa caacacacta taaagtgttt ttaaatccaa aaaaaaaa
1968

<210> 5140
<211> 443
<212> PRT
<213> Homo sapiens

<400> 5140
Met Glu Glu Asp Ile Asp Thr Arg Lys Ile Asn Asn Ser Phe Leu Arg
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Asp His Ser Tyr Ala Thr Glu Ala Asp Ile Ile Ser Thr Val Glu Phe
                20   25   30
Asn His Thr Gly Glu Leu Leu Ala Thr Gly Asp Lys Gly Gly Arg Val
            35   40   45
Val Ile Phe Gln Arg Glu Gln Glu Ser Lys Asn Gln Val His Arg Arg
    50   55   60
Gly Glu Tyr Asn Val Tyr Ser Thr Phe Gln Ser His Glu Pro Glu Phe
65   70   75   80
Asp Tyr Leu Lys Ser Leu Glu Ile Glu Glu Lys Ile Asn Lys Ile Arg
                85   90   95
Trp Leu Pro Gln Gln Asn Ala Ala Tyr Phe Leu Leu Ser Thr Asn Asp
            100   105   110
Lys Thr Val Lys Leu Trp Lys Val Ser Glu Arg Asp Lys Arg Pro Glu
            115   120   125
Gly Tyr Asn Leu Lys Asp Glu Glu Gly Arg Leu Arg Asp Pro Ala Thr
            130   135   140
Ile Thr Thr Leu Arg Val Pro Val Leu Arg Pro Met Asp Leu Met Val
145   150   155   160
Glu Ala Thr Pro Arg Arg Val Phe Ala Asn Ala His Thr Tyr His Ile
                165   170   175
Asn Ser Ile Ser Val Asn Ser Asp Tyr Glu Thr Tyr Met Ser Ala Asp
            180   185   190
Asp Leu Arg Ile Asn Leu Trp Asn Phe Glu Ile Thr Asn Gln Ser Phe
            195   200   205
Asn Ile Val Asp Ile Lys Pro Ala Asn Met Glu Glu Leu Thr Glu Val
    210   215   220
Ile Thr Ala Ala Glu Phe His Pro His His Cys Asn Thr Phe Val Tyr
225   230   235   240
Ser Ser Ser Lys Gly Thr Ile Arg Leu Cys Asp Met Arg Ala Ser Ala
            245   250   255
Leu Cys Asp Arg His Thr Lys Phe Phe Glu Glu Pro Glu Asp Pro Ser
            260   265   270
Asn Arg Ser Phe Phe Ser Glu Ile Ile Ser Ser Ile Ser Asp Val Lys
            275   280   285
Phe Ser His Ser Gly Arg Tyr Ile Met Thr Arg Asp Tyr Leu Thr Val
    290   295   300
Lys Val Trp Asp Leu Asn Met Glu Ser Arg Pro Val Glu Thr His Gln
305   310   315   320
Val His Asp Tyr Leu Arg Ser Lys Leu Cys Ser Leu Tyr Glu Asn Asp
                325   330   335
Cys Ile Phe Asp Lys Phe Glu Cys Val Trp Asn Gly Ser Asp Ser Val
            340   345   350
Ile Met Thr Gly Ser Tyr Asn Asn Phe Phe Arg Met Phe Asp Arg Asp

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        355                     360                     365
Thr Lys Arg Asp Val Thr Leu Glu Ala Ser Arg Glu Asn Ser Lys Pro
    370                 375                 380
Arg Ala Ile Leu Lys Pro Arg Lys Val Cys Val Gly Gly Lys Arg Arg
385                 390                 395                 400
Lys Asp Glu Ile Ser Val Asp Ser Leu Asp Phe Ser Lys Lys Ile Leu
                405                 410                 415
His Thr Ala Trp His Pro Val Asp Asn Val Ile Ala Val Ala Ala Thr
            420                 425                 430
Asn Asn Leu Tyr Ile Phe Gln Asp Lys Ile Asn
        435                 440
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<210> 5141
<211> 928
<212> DNA
<213> Homo sapiens

<400> 5141
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120
atgtcggagc gggtgtcggg cctggcgggc tccatctacc gcgagttcga gcgcctcatc
180
cactgctacg acgaggaggt ggtcaaggag ctcatgccgc tggtggtgaa cgtgctggag
240
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480
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720
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928
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<210> 5142
<211> 227
<212> PRT
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<213> Homo sapiens

<400> 5142
Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser Ile Tyr Arg Glu Phe
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Glu Arg Leu Ile His Cys Tyr Asp Glu Glu Val Val Lys Glu Leu Met
            20   25   30
Pro Leu Val Val Asn Val Leu Glu Asn Leu Asp Ser Val Leu Ser Glu
        35   40   45
Asn Gln Glu His Glu Val Glu Leu Glu Leu Leu Arg Glu Asp Asn Glu
    50   55   60
Gln Leu Leu Thr Gln Tyr Glu Arg Glu Lys Ala Leu Arg Arg Gln Ala
65   70   75   80
Glu Glu Lys Phe Ile Glu Phe Glu Asp Ala Leu Glu Gln Glu Lys Lys
            85   90   95
Glu Leu Gln Ile Gln Val Glu His Tyr Glu Phe Gln Thr Arg Gln Leu
            100   105   110
Glu Leu Lys Ala Lys Asn Tyr Ala Asp Gln Ile Ser Arg Leu Glu Glu
            115   120   125
Arg Glu Ser Glu Met Lys Lys Glu Tyr Asn Ala Leu His Gln Arg His
    130   135   140
Thr Glu Met Ile Gln Thr Tyr Val Glu His Ile Glu Arg Ser Lys Met
145   150   155   160
Gln Gln Val Gly Gly Asn Ser Gln Thr Glu Ser Ser Leu Pro Gly Arg
            165   170   175
Ser Arg Lys Glu Arg Pro Thr Ser Leu Asn Val Phe Pro Leu Ala Asp
            180   185   190
Gly Thr Val Arg Ala Gln Ile Gly Gly Lys Leu Val Pro Ala Gly Asp
            195   200   205
His Trp His Leu Ser Asp Leu Gly Gln Leu Gln Ser Ser Ser Ser Tyr
    210   215   220
Gln Val Leu
225

<210> 5143
<211> 1666
<212> DNA
<213> Homo sapiens

<400> 5143
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120
cgagaagact ttcgggtgcg ctgcacctcg aagcgggctg tgaccgaaat gctacaactg
180
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240
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360
gatcagtttg atgaaatcat agtagatata gccacaaaac gtaagcagta tcccagaaag
420

4324

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480
cctgttgtac atccactgga cctaaaatat gaccctgatc cagcccctca tatggaaaat
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600
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660
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gagaacttta taacacagat agaaaccaca ccaacagaga ctgcttccag gaaaacctct
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1020
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caaattctgt tgtgtttccc tggtatacat ctttctagga aaaaaaaaa aagagagaga
1260
gctgtataat gatttttcgt ttacatgctg aaaagtaatt atcagttctg cacagcagca
1320
gatgcagggt tttttttaa agatgtagtt tgatttatca aattaatgtg ctgatgataa
1380
tactggcttt gactttgtta ctccatgttc agctaattta ggtttgtgag attaacttta
1440
ggattttttg ttgtgtaaga caatgataac tattatttgt gcaacattac tctttgaaat
1500
aaaaattggc atgtagccaa tgtttcctgc ccacactcac ttttttctat agaccattaa
1560
cataatttga cttggaacta atggtttctt tttagggttt cttatttatt tctttacaaa
1620
tcattccagt tcaaaatata tatcagatta atacactgaa aaaaaa
1666

<210> 5144
<211> 218
<212> PRT
<213> Homo sapiens

<400> 5144
Leu Pro Glu Glu Ile Arg Glu Pro Ala Leu Arg Asp Ala Gln Trp Thr
1   5   10   15
Phe Glu Ser Ala Val Gln Glu Asn Ile Ser Ile Asn Gly Gln Ala Trp
            20   25   30
Gln Glu Ala Ser Asp Asn Cys Phe Met Asp Ser Asp Ile Lys Val Leu

```
              35                  40                  45
Glu Asp Gln Phe Asp Glu Ile Ile Val Asp Ile Ala Thr Lys Arg Lys
         50                  55                  60
Gln Tyr Pro Arg Lys Ile Leu Glu Cys Val Ile Lys Thr Ile Lys Ala
65                  70                  75                  80
Lys Gln Glu Ile Leu Lys Gln Tyr His Pro Val Val His Pro Leu Asp
                 85                  90                  95
Leu Lys Tyr Asp Pro Asp Pro Ala Pro His Met Glu Asn Leu Lys Cys
                100                 105                 110
Arg Gly Glu Thr Val Ala Lys Glu Ile Ser Glu Ala Met Lys Ser Leu
             115                 120                 125
Pro Ala Leu Ile Glu Gln Gly Glu Gly Phe Ser Gln Val Leu Arg Met
         130                 135                 140
Gln Pro Val Ile His Leu Gln Arg Ile His Gln Glu Val Phe Ser Ser
145                 150                 155                 160
Cys His Arg Lys Pro Asp Ala Lys Pro Glu Asn Phe Ile Thr Gln Ile
                165                 170                 175
Glu Thr Thr Pro Thr Glu Thr Ala Ser Arg Lys Thr Ser Asp Met Val
             180                 185                 190
Leu Lys Arg Lys Gln Thr Lys Asp Cys Pro Gln Arg Lys Trp Tyr Pro
             195                 200                 205
Leu Arg Pro Lys Lys Ile Asn Leu Asp Thr
    210                 215
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<210> 5145
<211> 1885
<212> DNA
<213> Homo sapiens
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<400> 5145
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120
ttgtccaagt tgggctgggt cttggtacac gtggttcggc ccagctccac gtccaagaag
180
tagttcaccc cagctacgat ctgcttgcgg gcgcgcacca cctgcagcgc gcggctgtgg
240
tacatgtcgt tgctggcttt gttgtactcg ccgacggcct cgcctcggta tcgcagcggg
300
tcctctctat ctagctccag cctctcgcct gcgccccact ccccgcgtcc cgcgtcctag
360
ccgaccatgg ccgggcccct gcgcgccccg ctgctcctgc tggccatcct ggccgtggcc
420
ctggccgtga gccccgcggc cggctccagt cccggcaagc cgccgcgcct ggtgggaggc
480
cccatggacg ccagcgtgga ggaggagggt gtgcggcgtg cactggactt tgccgtcggc
540
gagtacaaca aagccggcaa cgacatgtac cacagccgcg cgctgcaggt ggtgcgcgcc
600
cgcaagcagg tgacaatgtg ggcagctcat gaagatcgta gctggggtga actacttctt
660
ggacgtggag ctgggccgaa ccacgtgtac caagacccag cccaacttgg acaactgccc
720
```

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cttccatgac cagccacatc tgaaaaggaa agcattctgc tctttccaga tctacgctgt
780
gccttggcag ggcacaatga ccttgtcgaa atccacctgt caggacgcct aggggtctgt
840
accgggctgg cctgtgccta tcacctctta tgcacacctc caccccctg tattcccacc
900
cctggactgg tggcccctgc cttggggaag gtctccccat gtgcctgcac caggagacag
960
acagagaagg cagcaggcgg cctttgttgc tcagcaaggg gctctgccct ccctccttcc
1020
ttcttgcttc tcatagcccc ggtgtgcggt gcatacaccc ccacctcctg caataaaata
1080
gtagcatcgg caaaaaaacc tggcatccgg acaggcatcc aaggccttaa aggagaccag
1140
ggggaacctg ggccctctgg aaaccccggc aaggtgggct acccagggcc cagcggcccc
1200
ctcggagccc gtggcatccc gggaattaaa ggcaccaagg gcagcccagg aaacatcaag
1260
gaccagccga ggccagcctt ctccgccatt cggcggaacc ccccaatggg gggcaacgtg
1320
gtcatcttcg acacggtcat caccaaccag gaagaaccgt accagaacca ctccggccga
1380
ttcgtctgca ctgtacccgg ctactactac ttcaccttcc aggtgctgtc ccagtgggaa
1440
atctgcctgt ccatcgtctc ctcctcaagg ggccaggtcc gacgctccct gggcttctgt
1500
gacaccacca acaaggggct cttccaggtg gtgtcagggg gcatggtgct tcagctgcag
1560
cagggtgacc aggtctgggt tgaaaaagac cccaaaaagg gtcacattta ccagggctct
1620
gaggccgaca gcgtcttcag cggcttcctc atcttcccat ctgcctgagc cagggaagga
1680
ccccctcccc cacccacctc tctggcttcc atgctccgcc tgtaaaatgg gggcgctatt
1740
gcttcagctg ctgaagggag ggggctggct ctgagagccc caggactggc tgccccgtga
1800
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1860
tctgctgaaa aaaaaaaaa aaaaa
1885


<210> 5146
<211> 312
<212> PRT
<213> Homo sapiens


<400> 5146
Pro Ala Thr Ser Glu Lys Glu Ser Ile Leu Leu Phe Pro Asp Leu Arg
1               5                   10                  15
Cys Ala Leu Ala Gly His Asn Asp Leu Val Glu Ile His Leu Ser Gly
            20                  25                  30
Arg Leu Gly Val Cys Thr Gly Leu Ala Cys Ala Tyr His Leu Leu Cys
        35                  40                  45
Thr Pro Pro Thr Pro Cys Ile Pro Thr Pro Gly Leu Val Ala Pro Ala
```

```
         50                    55                   60
Leu Gly Lys Val Ser Pro Cys Ala Cys Thr Arg Arg Gln Thr Glu Lys
65                    70                   75                   80
Ala Ala Gly Gly Leu Cys Cys Ser Ala Arg Gly Ser Ala Leu Pro Pro
                    85                   90                   95
Ser Phe Leu Leu Leu Ile Ala Pro Val Cys Gly Ala Tyr Thr Pro Thr
               100                  105                  110
Ser Cys Asn Lys Ile Val Ala Ser Ala Lys Lys Pro Gly Ile Arg Thr
          115                  120                  125
Gly Ile Gln Gly Leu Lys Gly Asp Gln Gly Glu Pro Gly Pro Ser Gly
     130                  135                  140
Asn Pro Gly Lys Val Gly Tyr Pro Gly Pro Ser Gly Pro Leu Gly Ala
145                  150                  155                  160
Arg Gly Ile Pro Gly Ile Lys Gly Thr Lys Gly Ser Pro Gly Asn Ile
               165                  170                  175
Lys Asp Gln Pro Arg Pro Ala Phe Ser Ala Ile Arg Arg Asn Pro Pro
               180                  185                  190
Met Gly Gly Asn Val Val Ile Phe Asp Thr Val Ile Thr Asn Gln Glu
          195                  200                  205
Glu Pro Tyr Gln Asn His Ser Gly Arg Phe Val Cys Thr Val Pro Gly
     210                  215                  220
Tyr Tyr Tyr Phe Thr Phe Gln Val Leu Ser Gln Trp Glu Ile Cys Leu
225                  230                  235                  240
Ser Ile Val Ser Ser Ser Arg Gly Gln Val Arg Arg Ser Leu Gly Phe
               245                  250                  255
Cys Asp Thr Thr Asn Lys Gly Leu Phe Gln Val Val Ser Gly Gly Met
          260                  265                  270
Val Leu Gln Leu Gln Gln Gly Asp Gln Val Trp Val Glu Lys Asp Pro
     275                  280                  285
Lys Lys Gly His Ile Tyr Gln Gly Ser Glu Ala Asp Ser Val Phe Ser
290                  295                  300
Gly Phe Leu Ile Phe Pro Ser Ala
305                  310
```

<210> 5147
<211> 2943
<212> DNA
<213> Homo sapiens

<400> 5147
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120
gcccaccgct tcgtgctggc ggccggcagc gccgtctttg acgccatgtt caacggcggc
180
atggccacca cgtcggccga gatcgagctg ccggacgtgg agcccgcagc cttcctggcg
240
ctgctgagat ttctatattc agatgaagtt caaattggtc cagaaacagt tatgaccact
300
ctttatactg ccaagaaata cgcagtccca gccttggaag cacactgtgt agaatttctc
360
accaaacatc ttagggcaga taatgccttt atgttactta ctcaggctcg attatttgat
420

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gaacctcagc ttgctagtct ttgtctagat acaatagaca aaagcacaat ggatgcaata
480
agtgcagaag ggtttactga tattgatata gatacactct gtgcagtttt agagagagac
540
acactcagta ttcgagaaag tcgacttttt ggagctgttg tacgctgggc agaagcagaa
600
tgtcagagac aacaattacc tgtgactttt gggaataaac aaaaagttct aggaaaagca
660
ctttccttaa tccggttccc actgatgaca attgaggaat ttgcagcagg tcctgctcaa
720
tctggaattt tgtcagatcg tgaagtggta aacctctttc ttcattttac tgtcaaccct
780
aaaccccgag ttgaatacat tgaccgacca agatgctgtc tcaggggaaa ggaatgctgc
840
atcaatagat tccagcaagt agaaagccgc tggggttaca gtgggacgag tgatcgaatc
900
agattcacag ttaatagaag gatctctata gttggatttg cttgtatgg atctattcat
960
ggccctacag attatcaagt gaatatacag atcattgaat atgagaaaaa gcaaaccctg
1020
ggacagaatg ataccggctt tagttgtgat gggacagcta acacattcag ggtcatgttc
1080
aaggaaccca tagagatcct gcccaatgtg tgctacacag catgtgcaac actcaaaggt
1140
ccagattccc actatggcac aaaaggattg aagaaagtag tgcatgagac acctgctgca
1200
agcaagactg ttttttttctt ttttagttcc cctggcaata ataatggcac ttcaatagaa
1260
gatggacaaa ttccagaaat catattttat acataattta gcattataat acatcttggc
1320
taaataatac catacaatct agtgtcaaaa acataaatgg ccacaaaaaa gtagtttgag
1380
tgttatgaat atttaaaatt gtaagataag aaacagtttc ttagagcaga tagaaaaatg
1440
cttatttaaa tctttgcatg atttaaaaac agattttcca ttttcttaca actttaagag
1500
aaaagaactg ggtttaatgg tttaaaaaaa agcacagctt tttcaccttc atcttgtata
1560
atttcataga ttggctgact tagggtcttt caatagtttg ggaattgaaa gattcttgtt
1620
atatatagct agtttgggtt tgtttttgtt ttaactattt tgaaggttag gtgagatggg
1680
caaataggct taactatttt gaaggttgga tgaaaagaga tgggtcagta ttcctacaga
1740
attcttatta actcaaataa ctaaatttca gaaaattaag aagctgactt tatatttggt
1800
ggtttgaagt atcttgttgt tagcatttgt aataatgcta aaaaggcct aataaaatgc
1860
ccaagaaaat attcagtgca tttatagaga aggatatttt gtagtagtat agtaatgtgt
1920
tatgtagtac agtttttaaag ctataaatgg aattttgtgt aaattcacaa aaatgtgata
1980
taaacaggat ctaagactgg attccctgtc actaaactgc accactatac ctgtctctct
2040
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gtgtggggga cactgctgat gattcccaag attgagatga tgacggtgat gacgactggg
2100
tgaacagcca tcacttcaac attgtgataa tccttcacag cagaaaccga ataaaatact
2160
aacatttcta acaactgctc tgacattgta aagagatcca acagaatcac tcctgctgaa
2220
aaatacgctt tctgccacct acacatttct atttaggaag taaaatttgc ttcatggtca
2280
tgaccccatt agtcagtgtt acagctgtgt tggggatagg aagtatatct ggcagattga
2340
tatttataca cttttttata aagcagattt taaaatatag taacatccat ttttttccct
2400
tgaaagtgat tctcttataa aaaatgaaag tggagtttaa ggtatatcaa atcgttgtgg
2460
aaggtgatta aaaatcaaaa ttcttttaaa tatcaactta attttttcta agtaagatac
2520
aaaaaatttt catctaaagt aatatttcac tttatattgt aaagaaggta ggtatattgg
2580
tggctgaggt ctcttgaaat tgctaaaggg aaattttttct atggtaatgc tcttacggat
2640
ataaacctca gttaaatgga attatctatg ggatgtgtgg ttctggttaa ctaaaaatta
2700
accagtaaac actctgtagt aaccattaca gaaaatactt ctgccttaaa aaatatgata
2760
tgccagagat gagttagtgt ttcttgacgt tggagacctt ttaaatgcct catctgttgt
2820
actgaacaat tgaaactgca tgcagccata aaagggacaa gaaacagaac tgtttactaa
2880
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2940
aaa
2943

<210> 5148
<211> 296
<212> PRT
<213> Homo sapiens

<400> 5148
Ala Arg Leu Phe Asp Glu Pro Gln Leu Ala Ser Leu Cys Leu Asp Thr
 1   5   10   15
Ile Asp Lys Ser Thr Met Asp Ala Ile Ser Ala Glu Gly Phe Thr Asp
            20   25   30
Ile Asp Ile Asp Thr Leu Cys Ala Val Leu Glu Arg Asp Thr Leu Ser
        35   40   45
Ile Arg Glu Ser Arg Leu Phe Gly Ala Val Val Arg Trp Ala Glu Ala
     50   55   60
Glu Cys Gln Arg Gln Gln Leu Pro Val Thr Phe Gly Asn Lys Gln Lys
65   70   75   80
Val Leu Gly Lys Ala Leu Ser Leu Ile Arg Phe Pro Leu Met Thr Ile
                85   90   95
Glu Glu Phe Ala Ala Gly Pro Ala Gln Ser Gly Ile Leu Ser Asp Arg
            100   105   110
Glu Val Val Asn Leu Phe Leu His Phe Thr Val Asn Pro Lys Pro Arg

```
            115                  120                  125
Val Glu Tyr Ile Asp Arg Pro Arg Cys Cys Leu Arg Gly Lys Glu Cys
    130                  135                  140
Cys Ile Asn Arg Phe Gln Gln Val Glu Ser Arg Trp Gly Tyr Ser Gly
145                  150                  155                  160
Thr Ser Asp Arg Ile Arg Phe Thr Val Asn Arg Arg Ile Ser Ile Val
                165                  170                  ·175
Gly Phe Gly Leu Tyr Gly Ser Ile His Gly Pro Thr Asp Tyr Gln Val
                180                  185                  190
Asn Ile Gln Ile Ile Glu Tyr Glu Lys Lys Gln Thr Leu Gly Gln Asn
                195                  200                  205
Asp Thr Gly Phe Ser Cys Asp Gly Thr Ala Asn Thr Phe Arg Val Met
    210                  215                  220
Phe Lys Glu Pro Ile Glu Ile Leu Pro Asn Val Cys Tyr Thr Ala Cys
225                  230                  235                  240
Ala Thr Leu Lys Gly Pro Asp Ser His Tyr Gly Thr Lys Gly Leu Lys
                245                  250                  255
Lys Val Val His Glu Thr Pro Ala Ala Ser Lys Thr Val Phe Phe Phe
                260                  265                  270
Phe Ser Ser Pro Gly Asn Asn Asn Gly Thr Ser Ile Glu Asp Gly Gln
    275                  280                  285
Ile Pro Glu Ile Ile Phe Tyr Thr
    290                  295
```

```
<210> 5149
<211> 533
<212> DNA
<213> Homo sapiens

<400> 5149
ntccggatgg cagttatggc tatggggatc aaagatgacc gtcttaacaa agaccgatgt
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gtacgcctag ccctggttca tgatatggca gaatgcatcg ttggggacat agcaccagca
120
gataacatcc ccaaagaaga aaaacatagg cgagaagagg aagctatgaa gcagataacc
180
cagctcctac cagaggacct cagaaaggag ctctatgaac tttgggaaga gtacgagacc
240
caatctagtg cagaagccaa atttgtgaag cagctagacc aatgtgaaat gattcttcaa
300
gcatctgaat atgaagacct tgaacacaaa cctgggagac tgcaagactt ctatgattcc
360
acagcaggaa aattcaatca ccctgagata gtccagcttg tttctgaact tgaggcagaa
420
agaagcacta acatagctgc agctgccagt gagccacact cctgagacac tctctaaatt
480
gctgcactcc tgtaacaaac attattttcc atttcattgt attgtgtttt gca
533

<210> 5150
<211> 154
<212> PRT
<213> Homo sapiens
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<400> 5150
Xaa Arg Met Ala Val Met Ala Met Gly Ile Lys Asp Asp Arg Leu Asn
1   5   10   15
Lys Asp Arg Cys Val Arg Leu Ala Leu Val His Asp Met Ala Glu Cys
            20   25   30
Ile Val Gly Asp Ile Ala Pro Ala Asp Asn Ile Pro Lys Glu Glu Lys
            35   40   45
His Arg Arg Glu Glu Glu Ala Met Lys Gln Ile Thr Gln Leu Leu Pro
        50   55   60
Glu Asp Leu Arg Lys Glu Leu Tyr Glu Leu Trp Glu Glu Tyr Glu Thr
65   70   75   80
Gln Ser Ser Ala Glu Ala Lys Phe Val Lys Gln Leu Asp Gln Cys Glu
                85   90   95
Met Ile Leu Gln Ala Ser Glu Tyr Glu Asp Leu Glu His Lys Pro Gly
            100   105   110
Arg Leu Gln Asp Phe Tyr Asp Ser Thr Ala Gly Lys Phe Asn His Pro
        115   120   125
Glu Ile Val Gln Leu Val Ser Glu Leu Glu Ala Glu Arg Ser Thr Asn
        130   135   140
Ile Ala Ala Ala Ala Ser Glu Pro His Ser
145   150

<210> 5151
<211> 2273
<212> DNA
<213> Homo sapiens

<400> 5151
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60
cgagagtctg agtcgcgggg cagctccggt cgcgtcaagc gggagcgaga tcgggagcgg
120
gagcctgagg cggcgagctc ccggggcagc cctgtgcgcg tgaagcggga gttcgagccg
180
gcgagcgcgc gcgaggcccc ggcttctgtt gtcccgtttg tgcgggtgaa gcgggagcgc
240
gaggtcgatg aggactcgga gcctgagcgg gaggtgcgag caaagaatgg ccgagtggat
300
tctgaggacc ggaggagccg ccactgcctg tacctggaca ccattaacag gagtgtgctg
360
gactttgact ttgagaaact gtgttctatc tccctctcac acatcaatgc ttatgcctgt
420
ctggtgtgtg gcaagtactt tcaagctttt cacccttccc tacaggccgg ggtttgaagt
480
ctcacgccta cattcacagt gtccagttta gccaccatgt tttcctcaac ctccacaccc
540
tcaagtttta ctgccttcca gacaactatg agatcatcga ttcctcattg gaggatatca
600
cgtatgtgtt tgaagcccac tttcacaaag cagcaaattg caaacttgga caagcaagcc
660
aaattgtccc gggcatatga tggtaccact tacctgccgg gtattgtggg actgaataac
720
ataaaggcca atgattatgc caacgctgtc cttcaggctc tatctaatgt tcctcctctc
780

cggaactact ttctggaaga agacaattat aagaacatca aacgtcctcc aggggatatc
840
atgttcttgt tggtccagcg tttttggagag ctgatgagaa agctctggaa ccctcgaaat
900
ttcaaggcac atgtgtctcc ccatgagatg cttcaggcag ttgtactttg cagtaagaag
960
acttttcaga tcaccaaaca aggagatggc gttgactttc tgtcttggtt tctgaatgct
1020
ctgcactcag ctctgggggg cacaagaag aaaaagaaga ctattgtgac tgatgttttc
1080
caggggtcca tgaggatctt cactaaaaag cttccccatc ctgatctgcc agcagaagaa
1140
aaagagcagt tgctccataa tgacgagtac caggagacaa tggtggagtc cacttttatg
1200
tacctgacgc tggaccttcc tactgcccc ctctacaagg acgagaagga gcagctcatc
1260
attccccaag tgccactctt caacatcctg gctaagttca atggcatcac tgagaaggaa
1320
tataagactt acaaggagaa ctttctgaag cgcttccagc ttaccaagtt gcctccatat
1380
ctaatctttt gtatcaagat attcactaag aacaacttct ttgttgagaa gaatccaact
1440
agttgtcaat ttccctatta caaatgtgga tctgagagaa tacttgtctg aagaagtaca
1500
agcagtacac aagaatacca cctatgacct cattgccaac atcgtgcatg acggcaagcc
1560
ctccgagggc tcctaccgga tccacgtgct tcatcatggg acaggcaaat ggtatgaatt
1620
acaagacctc caggtgactg acatccttcc ccagatgatc acactgtcag aggcttacat
1680
tcagatttgg aagaggcgag ataatgatga aaccaaccag caggggctt gaaggaggcg
1740
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1800
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1860
tacaccagag caccaagagc ccacttgcct gggatggccc cacactgtca ctcagttgtt
1920
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1980
cttcagcagg gcagaaccct tctccagatg tgtgtaactt atgtcttgag tatctgggag
2040
tagttgaaga acagataatt ccttccaaac atcaagcctt gggattcttg gagcaagcag
2100
aaagccagta acttcgctct gttagaggtg gaggattttc ctatggttcc ccccatttcc
2160
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2220
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2273

<210> 5152
<211> 324
<212> PRT

4333

<213> Homo sapiens

<400> 5152

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Met Phe Ser Ser Thr Ser Thr Pro Ser Ser Phe Thr Ala Phe Gln Thr
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Thr Met Arg Ser Ser Ile Pro His Trp Arg Ile Ser Arg Met Cys Leu
            20                  25                  30
Lys Pro Thr Phe Thr Lys Gln Gln Ile Ala Asn Leu Asp Lys Gln Ala
        35                  40                  45
Lys Leu Ser Arg Ala Tyr Asp Gly Thr Thr Tyr Leu Pro Gly Ile Val
    50                  55                  60
Gly Leu Asn Asn Ile Lys Ala Asn Asp Tyr Ala Asn Ala Val Leu Gln
65                  70                  75                  80
Ala Leu Ser Asn Val Pro Pro Leu Arg Asn Tyr Phe Leu Glu Glu Asp
                85                  90                  95
Asn Tyr Lys Asn Ile Lys Arg Pro Pro Gly Asp Ile Met Phe Leu Leu
                100                 105                 110
Val Gln Arg Phe Gly Glu Leu Met Arg Lys Leu Trp Asn Pro Arg Asn
        115                 120                 125
Phe Lys Ala His Val Ser Pro His Glu Met Leu Gln Ala Val Val Leu
    130                 135                 140
Cys Ser Lys Lys Thr Phe Gln Ile Thr Lys Gln Gly Asp Gly Val Asp
145                 150                 155                 160
Phe Leu Ser Trp Phe Leu Asn Ala Leu His Ser Ala Leu Gly Gly Thr
                165                 170                 175
Lys Lys Lys Lys Lys Thr Ile Val Thr Asp Val Phe Gln Gly Ser Met
                180                 185                 190
Arg Ile Phe Thr Lys Lys Leu Pro His Pro Asp Leu Pro Ala Glu Glu
        195                 200                 205
Lys Glu Gln Leu Leu His Asn Asp Glu Tyr Gln Glu Thr Met Val Glu
    210                 215                 220
Ser Thr Phe Met Tyr Leu Thr Leu Asp Leu Pro Thr Ala Pro Leu Tyr
225                 230                 235                 240
Lys Asp Glu Lys Glu Gln Leu Ile Ile Pro Gln Val Pro Leu Phe Asn
                245                 250                 255
Ile Leu Ala Lys Phe Asn Gly Ile Thr Glu Lys Glu Tyr Lys Thr Tyr
                260                 265                 270
Lys Glu Asn Phe Leu Lys Arg Phe Gln Leu Thr Lys Leu Pro Pro Tyr
        275                 280                 285
Leu Ile Phe Cys Ile Lys Ile Phe Thr Lys Asn Asn Phe Phe Val Glu
    290                 295                 300
Lys Asn Pro Thr Ser Cys Gln Phe Pro Tyr Tyr Lys Cys Gly Ser Glu
305                 310                 315                 320
Arg Ile Leu Val
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<210> 5153
<211> 640
<212> DNA
<213> Homo sapiens

<400> 5153
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60

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acctctccta ccatcccttc cttctacacc ttctctgcct gtcataggtg gctgcaggag
120
gggtccacgt tgggagggac aggtgagctg gcctttggtg ctgacacact cctgactttg
180
ccctttctcc tgcaggggt gccattcccg cagaatgagg ctaatgccat ggatgtggtg
240
gtccagtttg ccatccaccg cctgggcttc cagccccagg acatcatcat ctacgcctgg
300
tccatcggcg gcttcactgc cacgtgggca gccatgtcct acccagatgt tagtgccatg
360
atcctggatg cctcctttga tgacctggtg cccttggcct tgaaggtcat gccagacagc
420
tggagtgagt gcagctccca ggcctgccct tcctgggaag gggtgggctg gaactgggaa
480
ctgttctgag atggctccct tttcttgggt ggggagtaag tcgccccaat gttggaagca
540
ggaggactcc tttgtctggg ggcctcagtt ttctttctcc gtgaatagtg aggacctta
600
tgttgggcaa gggctttgtc tctgccatcc cttcacgcgt
640
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<210> 5154
<211> 162
<212> PRT
<213> Homo sapiens

<400> 5154
Xaa Leu Ala Gly Glu Glu Glu Val Asp Leu Ile Val His Ile Arg Leu
 1               5                  10                  15
Leu Glu Arg Thr Thr Ser Pro Thr Ile Pro Ser Phe Tyr Thr Phe Ser
                20                  25                  30
Ala Cys His Arg Trp Leu Gln Glu Gly Ser Thr Leu Gly Gly Thr Gly
            35                  40                  45
Glu Leu Ala Phe Gly Ala Asp Thr Leu Leu Thr Leu Pro Phe Leu Leu
        50                  55                  60
Gln Gly Val Pro Phe Pro Gln Asn Glu Ala Asn Ala Met Asp Val Val
65                  70                  75                  80
Val Gln Phe Ala Ile His Arg Leu Gly Phe Gln Pro Gln Asp Ile Ile
                85                  90                  95
Ile Tyr Ala Trp Ser Ile Gly Gly Phe Thr Ala Thr Trp Ala Ala Met
            100                 105                 110
Ser Tyr Pro Asp Val Ser Ala Met Ile Leu Asp Ala Ser Phe Asp Asp
        115                 120                 125
Leu Val Pro Leu Ala Leu Lys Val Met Pro Asp Ser Trp Ser Glu Cys
        130                 135                 140
Ser Ser Gln Ala Cys Pro Ser Trp Glu Gly Val Gly Trp Asn Trp Glu
145                 150                 155                 160
Leu Phe
```

```
<210> 5155
<211> 1402
<212> DNA
<213> Homo sapiens
```

<400> 5155

ccaaagtcca gaagttacgc gtcacccttg ctctacagcc aaacatgcag gactctagta
60
acccgcgaaa tgatgggata gcgttgcaaa tccttaaaag agtcttaacg aaatcctggc
120
tgacattgac ttctccactg caaccatcga gttcattgtc tcctaaacct tgccatggag
180
gcctgtggca cctgagccag ccattatcat caccagcact tccatgagct acaagctgga
240
cccactgcag tcctcctgac acactgaaat cagagcctgc acacagagca gcagatgctt
300
caatgtaaag gtcatttcca ggtccttgac aggcgtgcat ctgggccaga tccatggcaa
360
taaccttcag gttgaggcta gagggcttca gatgggcagc ttcgaatgac aggagcaagg
420
aacaagaggc cggaaaggga gggtgacatt ttcagcatct ataagatcaa ctttagaaat
480
atttgggggt tgacaaattc ccatcaagct ctgtggatct tgtacaacta ctcaccaccg
540
gcttctcatc agcacatgat tggtgcaggg ttctgaggat gattttgaga tgttccctga
600
tgtggtcttg tgaggagatt tcatgacgga tggcaggaaa cttcgtggag agatttctga
660
agacactcct gagctcccaa caccgggcaa ctctcttcca gaggatattg gggtggaggg
720
tagaagagag gcaaagtcag gtttgtcttc ggatcccctt tcattctccc tttttcccac
780
cgtaaaccaa ctttggctta cagttagaca ccagttttcg gcagatgaaa tccctctgat
840
ttcaggcatt ttgtcaatta agctgctcag caacaatagg ataaacttat gaaaagaaag
900
gagtagcagt cccacagaca aagcatccag cccctgcact gagacagtat agggaaggga
960
cttggtcctg gcagacagga cagataatca acatcctagt gggccttaca catgtgggca
1020
tattctttc cataccttct tgtctgtttt aacaagctaa ccccagtcac agtagcagag
1080
agagggtcca tcctaactta gctgaccagg ctggattcct aatcataaaa ccaaaaaagg
1140
aagaacctaa ccatttctct ctttcagcta tgtgttccaa gattactgaa gcaggattct
1200
ggccttcctg ataagaacat gaccagatcc agctggtttg caacaagatg aacttcagtg
1260
ctgagctttc accaagtttt tctcactaca atctcattgt aatactaaaa tctccaccca
1320
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1380
ctattaaact ttgcctgaaa ta
1402

<210> 5156
<211> 118
<212> PRT

<213> Homo sapiens

<400> 5156
Met Asp Leu Ala Gln Met His Ala Cys Gln Gly Pro Gly Asn Asp Leu
1   5   10   15
Tyr Ile Glu Ala Ser Ala Ala Leu Cys Ala Gly Ser Asp Phe Ser Val
                20   25   30
Ser Gly Gly Leu Gln Trp Val Gln Leu Val Ala His Gly Ser Ala Gly
        35   40   45
Asp Asp Asn Gly Trp Leu Arg Cys His Arg Pro Pro Trp Gln Gly Leu
    50   55   60
Gly Asp Asn Glu Leu Asp Gly Cys Ser Gly Glu Val Asn Val Ser Gln
65   70   75   80
Asp Phe Val Lys Thr Leu Leu Arg Ile Cys Asn Ala Ile Pro Ser Phe
                85   90   95
Arg Gly Leu Leu Glu Ser Cys Met Phe Gly Cys Arg Ala Arg Val Thr
            100   105   110
Arg Asn Phe Trp Thr Leu
        115

<210> 5157
<211> 1310
<212> DNA
<213> Homo sapiens

<400> 5157
tgatcagaaa ttacctttga cgtgcagtga cagttgattt cctcttgaac tgccggtgaa
60
aacagtctag tacacaggtg ctgtcagccc agggtgggag caggaaatga ttgctgagcc
120
cggggcaggg gaattgcatc tgcaggaaag agatgcagca tgctcctcac tcctgagtgc
180
ccacctgtcc tgcttctctg caggtgaaaa ctctggggga tgctgatcaa tagagcttgg
240
tcccaagctc tactgggccc ttggaggtag caaggccact gggttgctat cctcttgctg
300
gggatagcaa ccactggttt gcaaccactg ggttgctatc cttttgctat cctcttgctc
360
atgaccagcc atatggtgag gctggggagt tcacatcctc aggcaggaac tagcagttgt
420
ttatccagca atgcctcaag gatgttgcat tgctcccagg agctggctat taggtatgtc
480
ttgtgcggtc agtcagcatc acagacacat agatgctcac cagcctggct tagctgggac
540
ctaaatcttc tggtgaaaag cttttcacta agtgaggttc cttccctgca aatgctgaat
600
ctagcctaat tcgcaaccac acagaatttc atggctttca aaggcttgcc atgtgcccca
660
tctcattcta tactcacatc ccatggaggt gaggattttc acttcttttc tctagacttg
720
gaagctgaga ttcagagagg aagcatccct tgtgcaagat cacatagtca ggaggtgaca
780
cagggctaag acttgaacca aggctctaag aggatttctt cttttcagag tctcttccct
840

```
gtccatttct gtgactaagc tgtgcagagg ttgacagcag ggcaagttat attgatattc
900
atcctttata ggcttcctgc taaaaagctt ctgagattgt ggtcttccaa aaaaaatagg
960
agcttggttg aagtccccac attttcaagc actcagtgtt ctgcctctgc gaactgtgct
1020
aacagctcag tgctgtcctg ggagtcctct gactcagaac cctcgaagca tcctgcattg
1080
tctttaccca ccatcatctt cactaagaga aacatgccta cccatgaagg cgtgtttgat
1140
tactccaggc ttctggacac acatacccat gggtgatttt tgctcctcag gcccaatatt
1200
ctcagacagc ccagcagtgt gaacacacaa tgccaggcca gggaactggg gaccaccatc
1260
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1310
```

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<210> 5158
<211> 82
<212> PRT
<213> Homo sapiens
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<400> 5158
Met Thr Ser His Met Val Arg Leu Gly Ser Ser His Pro Gln Ala Gly
 1               5                  10                  15
Thr Ser Ser Cys Leu Ser Ser Asn Ala Ser Arg Met Leu His Cys Ser
            20                  25                  30
Gln Glu Leu Ala Ile Arg Tyr Val Leu Cys Gly Gln Ser Ala Ser Gln
        35                  40                  45
Thr His Arg Cys Ser Pro Ala Trp Leu Ser Trp Asp Leu Asn Leu Leu
    50                  55                  60
Val Lys Ser Phe Ser Leu Ser Glu Val Pro Ser Leu Gln Met Leu Asn
65                  70                  75                  80
Leu Ala
```

```
<210> 5159
<211> 3233
<212> DNA
<213> Homo sapiens
```

```
<400> 5159
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ccatttcatc agctttagtt gcatgcagcc atggcacaga gaagggagaa aagaatgtga
120
gcaaaagtga tcagggaaga tttcctgatg gaggggggag tccaaccggg gtcttcttgg
180
atagtagcat ttgagtagtg tttaaaaaat aaataaataa aaggagcacg tgagaagtaa
240
agttgcattt ctggacatga gagcagtgtt gtgaaactta gatgatgcat atagagaagg
300
cagcgagtgt gtttgaggat agtgagcgaa cagtttgtct gttcacggac atctgtccag
360
```

4338

```
agtggcaagc acatagtggg taaccagaat gggcctcttc cctttccttt ttggttaccc
420
cacaactcag tataggtact gactgccaaa tctccacatt tgtatatttc ttagcgtaat
480
gaaggcgatc tcttccaccg gctgtggcac atcatgaatg aaatcctgga cctgaggcgg
540
caggtgctgg tgggccacct cacccacgac cggatgaagg acgtgaagcg ccacattact
600
gcccggcttg actggggcaa tgaacaactg ggactggacc tggtgcctag gaaagagtac
660
gcaatggtgg atccggaaga catcagcatt actgagctct accgattgtc catgctgatc
720
atgttttttgt tggggggtgt cattcagatg gaacatcgac atcggaagaa agacaccccg
780
gtgcaggcca gcagtcacca cctctttgtc cagatgaaga gcctcatgtg ttccaacctg
840
ggagaggagc tggaggtcat cttctcactc tttgacagta aagagaaccg gccaatcagt
900
gagagatttt tcttgaggct gaatagaaac gggcttccca aagcccctga taaaccggaa
960
cgacattgct ccctctttgt ggatttgggc agcagtgagc taagaaagga catttatatc
1020
accgtgcaca ttatccgaat cggtcgaatg ggagcaggag aaaaaaagaa tgcctgtagt
1080
gtccagtacc gacgacccctt tggctgtgca gttcttagca tcgctgacct gctaacagga
1140
gagacaaagg atgacctcat tctgaaagta tacatgtgta acacagagag tgagtggtac
1200
caaatccatg agaacatcat caaaaagctg aatgcacgtt ataacttgac tggctccaat
1260
gcaggtttag cagtttcctt acagctattg cacggagaca ttgaacaaat cagaagggaa
1320
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1560
cactcctttg tgctttacca taacaacagt cccaggtggt ctgaactgct gaaacttccc
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attcctgtgg ataaattccg gggtgcacac atccgcttcg agtttcggca ttgttccaca
1680
aaggagaaag gagagaagaa gttgtttggg ttttcttttg tccctctgat gcaagaagat
1740
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1800
aatcttcagg atactacccg ctacctcaaa cttccctttt ccaagggcat tttccttggg
1860
aataataatc aagccatgaa ggccacaaag gagtcctttt gtattacatc ttttctctgt
1920
tccacaaaac tcacacaaaa tggtgatatg cttgatcttt tgaaatggag aacccacccca
1980
```

```
gacaagatca ctggctgtct ctctaaatta aaagaaattg atggctcaga gatagtaaag
2040
tttctgcagg atacactgga taccttattt ggaattttag atgaaaattc ccaaaaatat
2100
gggtctaaag tgtttgattc tttggttcac ataataaatt tgctgcaaga tagcaaattt
2160
catcatttta aacctgtaat ggacacttac attgagagtc attttgctgg ggcacttgca
2220
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2280
caagagcata tccaggaggt gctgaaggca caagaataca tttttaagta tatagttcaa
2340
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2400
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2640
accgtggaaa gccagcttta taccaaccca gattcccgat acattcttct gcctgtcgtg
2700
ttacatcacc tccacattca cttgcaagaa cagaaggacc tgatcatgtg tgcacgtatc
2760
cttagcaacg tattttgtct tatcaagaaa aatagctcag aaaaatctgt gctggaggaa
2820
atagatgtga tagtggccag cttgctggat attctgctga ggaccatatt ggagatcacc
2880
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2940
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3000
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3060
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3120
attgctttac ctgtttccat taagttctaa gctgtttttc tcagcctcat ccacagatct
3180
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3233
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<210> 5160
<211> 849
<212> PRT
<213> Homo sapiens

<400> 5160
Met Asn Glu Ile Leu Asp Leu Arg Arg Gln Val Leu Val Gly His Leu
1               5                   10                  15
Thr His Asp Arg Met Lys Asp Val Lys Arg His Ile Thr Ala Arg Leu
            20                  25                  30
Asp Trp Gly Asn Glu Gln Leu Gly Leu Asp Leu Val Pro Arg Lys Glu
```

```
             35                    40                    45
Tyr Ala Met Val Asp Pro Glu Asp Ile Ser Ile Thr Glu Leu Tyr Arg
      50                    55                    60
Leu Ser Met Leu Ile Met Phe Leu Leu Gly Gly Val Ile Gln Met Glu
65                    70                    75                    80
His Arg His Arg Lys Lys Asp Thr Pro Val Gln Ala Ser Ser His His
                85                    90                    95
Leu Phe Val Gln Met Lys Ser Leu Met Cys Ser Asn Leu Gly Glu Glu
               100                   105                   110
Leu Glu Val Ile Phe Ser Leu Phe Asp Ser Lys Glu Asn Arg Pro Ile
               115                   120                   125
Ser Glu Arg Phe Phe Leu Arg Leu Asn Arg Asn Gly Leu Pro Lys Ala
    130                   135                   140
Pro Asp Lys Pro Glu Arg His Cys Ser Leu Phe Val Asp Leu Gly Ser
145                   150                   155                   160
Ser Glu Leu Arg Lys Asp Ile Tyr Ile Thr Val His Ile Ile Arg Ile
               165                   170                   175
Gly Arg Met Gly Ala Gly Glu Lys Lys Asn Ala Cys Ser Val Gln Tyr
               180                   185                   190
Arg Arg Pro Phe Gly Cys Ala Val Leu Ser Ile Ala Asp Leu Leu Thr
               195                   200                   205
Gly Glu Thr Lys Asp Asp Leu Ile Leu Lys Val Tyr Met Cys Asn Thr
    210                   215                   220
Glu Ser Glu Trp Tyr Gln Ile His Glu Asn Ile Ile Lys Lys Leu Asn
225                   230                   235                   240
Ala Arg Tyr Asn Leu Thr Gly Ser Asn Ala Gly Leu Ala Val Ser Leu
               245                   250                   255
Gln Leu Leu His Gly Asp Ile Glu Gln Ile Arg Arg Glu Tyr Ser Ser
               260                   265                   270
Val Phe Ser His Gly Val Ser Ile Thr Arg Lys Leu Gly Phe Ser Asn
    275                   280                   285
Ile Ile Met Pro Gly Glu Met Arg Asn Asp Leu Tyr Ile Thr Ile Glu
    290                   295                   300
Arg Gly Glu Phe Glu Lys Gly Gly Lys Ser Val Ala Arg Asn Val Glu
305                   310                   315                   320
Val Thr Met Phe Ile Val Asp Ser Ser Gly Gln Thr Leu Lys Asp Phe
               325                   330                   335
Ile Ser Phe Gly Ser Gly Glu Pro Pro Ala Ser Glu Tyr His Ser Phe
               340                   345                   350
Val Leu Tyr His Asn Asn Ser Pro Arg Trp Ser Glu Leu Leu Lys Leu
               355                   360                   365
Pro Ile Pro Val Asp Lys Phe Arg Gly Ala His Ile Arg Phe Glu Phe
    370                   375                   380
Arg His Cys Ser Thr Lys Glu Lys Gly Glu Lys Lys Leu Phe Gly Phe
385                   390                   395                   400
Ser Phe Val Pro Leu Met Gln Glu Asp Gly Arg Thr Leu Pro Asp Gly
               405                   410                   415
Thr His Glu Leu Ile Val His Lys Cys Glu Glu Asn Thr Asn Leu Gln
               420                   425                   430
Asp Thr Thr Arg Tyr Leu Lys Leu Pro Phe Ser Lys Gly Ile Phe Leu
    435                   440                   445
Gly Asn Asn Asn Gln Ala Met Lys Ala Thr Lys Glu Ser Phe Cys Ile
    450                   455                   460
Thr Ser Phe Leu Cys Ser Thr Lys Leu Thr Gln Asn Gly Asp Met Leu
```

```
465                      470                    475                      480
Asp Leu Leu Lys Trp Arg Thr His Pro Asp Lys Ile Thr Gly Cys Leu
                485                    490                    495
Ser Lys Leu Lys Glu Ile Asp Gly Ser Glu Ile Val Lys Phe Leu Gln
                500                    505                    510
Asp Thr Leu Asp Thr Leu Phe Gly Ile Leu Asp Glu Asn Ser Gln Lys
            515                    520                    525
Tyr Gly Ser Lys Val Phe Asp Ser Leu Val His Ile Ile Asn Leu Leu
        530                    535                    540
Gln Asp Ser Lys Phe His His Phe Lys Pro Val Met Asp Thr Tyr Ile
545                    550                    555                    560
Glu Ser His Phe Ala Gly Ala Leu Ala Tyr Arg Asp Leu Ile Lys Val
                565                    570                    575
Leu Lys Trp Tyr Val Asp Arg Ile Thr Glu Ala Glu Arg Gln Glu His
            580                    585                    590
Ile Gln Glu Val Leu Lys Ala Gln Glu Tyr Ile Phe Lys Tyr Ile Val
        595                    600                    605
Gln Ser Arg Arg Leu Phe Ser Leu Ala Thr Gly Gly Gln Asn Glu Glu
    610                    615                    620
Glu Phe Arg Cys Cys Ile Gln Glu Leu Leu Met Ser Val Arg Phe Phe
625                    630                    635                    640
Leu Ser Gln Glu Ser Lys Gly Ser Gly Ala Leu Ser Gln Ser Gln Ala
                645                    650                    655
Val Phe Leu Ser Ser Phe Pro Ala Val Tyr Ser Glu Leu Leu Lys Leu
                660                    665                    670
Phe Asp Val Arg Glu Val Ala Asn Leu Val Gln Asp Thr Leu Gly Ser
            675                    680                    685
Leu Pro Thr Ile Leu His Val Asp Asp Ser Leu Gln Ala Ile Lys Leu
        690                    695                    700
Gln Cys Ile Gly Lys Thr Val Glu Ser Gln Leu Tyr Thr Asn Pro Asp
705                    710                    715                    720
Ser Arg Tyr Ile Leu Leu Pro Val Val Leu His His Leu His Ile His
                725                    730                    735
Leu Gln Glu Gln Lys Asp Leu Ile Met Cys Ala Arg Ile Leu Ser Asn
                740                    745                    750
Val Phe Cys Leu Ile Lys Lys Asn Ser Ser Glu Lys Ser Val Leu Glu
            755                    760                    765
Glu Ile Asp Val Ile Val Ala Ser Leu Leu Asp Ile Leu Leu Arg Thr
        770                    775                    780
Ile Leu Glu Ile Thr Ser Arg Pro Gln Pro Ser Ser Ser Ala Met Arg
785                    790                    795                    800
Phe Gln Phe Gln Asp Val Thr Gly Glu Phe Val Ala Cys Leu Leu Ser
                805                    810                    815
Leu Leu Arg Gln Met Thr Asp Arg His Tyr Gln Gln Leu Leu Asp Ser
            820                    825                    830
Phe Asn Thr Lys Glu Glu Leu Arg Val Ser Asp Ile Leu Lys Cys Phe
        835                    840                    845
Leu
```

<210> 5161
<211> 1645
<212> DNA
<213> Homo sapiens

<400> 5161

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120
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180
gaggccaggg gagtttaaag ctcgatttca cccgcgcagc ctccaatccg ggtgttctga
240
gaatcagcca tgtcatccct gtacccatct ctagaggacc taaaagtgga ccaagccatt
300
caggcccagg tcagagcctc acccaagatg ccagccctgc cagtccaggc aacagccatt
360
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420
ctctccagcc aagaagtcca ggagagcctg cttcagattc cagagggtga cagtacagcg
480
gtctcgggcc ccgggcccgg ccagatggtg gcaccggtaa ccgggtacag cctgggcgtg
540
cggcgagctg agatcaagcc cggggtgcgc gagatccacc tgtgcaagga cgagcgcggc
600
aagaccgggc tgaggctgcg gaaggtcgac caggggctct ttgtgcagtt ggtccaggcc
660
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720
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780
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960
cagaatgtta tcgggctgaa ggacaaaaag atcatggaga ttctggccac ggctgggaac
1020
gttgtcaccc tgaccatcat ccccagtgtg atctacgagc acatggtcaa aaagttgcct
1080
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1260
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1320
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1380
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1440
tttgctctac caggaaaaca gttacacatt ttaagagaac agagctacgt tctttgtgag
1500
agcttttcc ttggcttgac ttgctctttg tcacagactg cataagttgt cagccttgac
1560
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1620
aaaaaaaaaa aaaaaaaaaa aaaaa
1645
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<210> 5162
<211> 207
<212> PRT
<213> Homo sapiens

<400> 5162

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Met Val Ala Pro Val Thr Gly Tyr Ser Leu Gly Val Arg Arg Ala Glu
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Ile Lys Pro Gly Val Arg Glu Ile His Leu Cys Lys Asp Glu Arg Gly
            20                  25                  30
Lys Thr Gly Leu Arg Leu Arg Lys Val Asp Gln Gly Leu Phe Val Gln
            35                  40                  45
Leu Val Gln Ala Asn Thr Pro Ala Ser Leu Val Gly Leu Arg Phe Gly
        50                  55                  60
Asp Gln Leu Leu Gln Ile Asp Gly Arg Asp Cys Ala Gly Trp Ser Ser
65                  70                  75                  80
His Lys Ala His Gln Val Val Lys Lys Ala Ser Gly Asp Lys Ile Val
                85                  90                  95
Val Val Val Arg Asp Arg Pro Phe Gln Arg Thr Val Thr Met His Lys
            100                 105                 110
Asp Ser Met Gly His Val Gly Phe Val Ile Lys Lys Gly Lys Ile Val
            115                 120                 125
Ser Leu Val Lys Gly Ser Ser Ala Ala Cys Asn Gly Leu Leu Thr Asn
        130                 135                 140
His Tyr Val Cys Glu Val Asp Gly Gln Asn Val Ile Gly Leu Lys Asp
145                 150                 155                 160
Lys Lys Ile Met Glu Ile Leu Ala Thr Ala Gly Asn Val Val Thr Leu
                165                 170                 175
Thr Ile Ile Pro Ser Val Ile Tyr Glu His Met Val Lys Lys Leu Pro
            180                 185                 190
Pro Val Leu Leu His His Thr Met Asp His Ser Ile Pro Asp Ala
        195                 200                 205
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<210> 5163
<211> 1187
<212> DNA
<213> Homo sapiens

<400> 5163

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tgttctggct gaaggcgccg gccgctcaag cgtgtttcgg cagatatttt tgagaacatt
120
tttttatttt taaatacatg tatagcatga gtgatggagc caaacacaag ttttgaagcc
180
aagctcttgg ttctgagaaa caggcccaac actgcacagt gtcattcgca gtcaacccaa
240
ccactgtctg agttcacgtg acgatttctc ctgccaggtc acgggaagtt gttatttaaa
300
```

4344

```
gatggcagtt attacgaagg ggcgtttgtg gacggagaga tcacgggaga aggccgccgg
360
cactgggcct ggtcaggaga caccttctct ggacagtttg ttctgggaga gcctcaaggc
420
tacggcgtca tggagtacaa agccggcgga tgttatgaag gggaggtctc ccacggcatg
480
cgggaaggac acgggtttct ggtggaccgg gatggacaag tgtaccaggg ctccttccat
540
gacaacaaga ggcacggccc tgggcagatg ctctttcaga acggtgacaa gtacgacggc
600
gactgggtcc gggaccggcg tcagggacac ggggtgctgc gctgcgccga cggctccacc
660
tacaaggggac agtggcacag cgacgtcttc agtggactgg gcagcatggc ccactgctca
720
ggggtcacct attatgggtt gtggatcaat ggccacccag cagaacaagc tacgaggatc
780
gtgatcttgg gtccggaggt gatggaagtg gcccaagggt ctcccttctc ggtgaacgtt
840
cagctgctgc aggaccacgg ggaaattgcc aagagtaagc atctccaggg ggagatgacc
900
taacgtttcc aaaagagaaa caggcagcag gttcttaagc agtgaagatg cggacgagat
960
gttgcatgtg gctcctgagg cacagcagtg acttcgtgcc cagagcctgg cagagaggtc
1020
gcaggtgtgc cagcttccct gccagtcagg gcagccttgg gtgtgtgtgc aagcatgtgt
1080
gcacatattg tgtgatgtgc gtgctcctgt atgtgtgtgc atatgtgtgt atgccttgca
1140
caggtgtgca caggtctgaa tgtgtatacg tgtggggggg cacgcgt
1187
```

```
<210> 5164
<211> 213
<212> PRT
<213> Homo sapiens
```

```
<400> 5164
Arg Phe Leu Leu Pro Gly His Gly Lys Leu Leu Phe Lys Asp Gly Ser
1               5                   10                  15
Tyr Tyr Glu Gly Ala Phe Val Asp Gly Glu Ile Thr Gly Glu Gly Arg
            20                  25                  30
Arg His Trp Ala Trp Ser Gly Asp Thr Phe Ser Gly Gln Phe Val Leu
        35                  40                  45
Gly Glu Pro Gln Gly Tyr Gly Val Met Glu Tyr Lys Ala Gly Gly Cys
    50                  55                  60
Tyr Glu Gly Glu Val Ser His Gly Met Arg Glu Gly His Gly Phe Leu
65                  70                  75                  80
Val Asp Arg Asp Gly Gln Val Tyr Gln Gly Ser Phe His Asp Asn Lys
                85                  90                  95
Arg His Gly Pro Gly Gln Met Leu Phe Gln Asn Gly Asp Lys Tyr Asp
            100                 105                 110
Gly Asp Trp Val Arg Asp Arg Arg Gln Gly His Gly Val Leu Arg Cys
        115                 120                 125
Ala Asp Gly Ser Thr Tyr Lys Gly Gln Trp His Ser Asp Val Phe Ser
```

```
        130                     135                     140
Gly Leu Gly Ser Met Ala His Cys Ser Gly Val Thr Tyr Tyr Gly Leu
145                     150                     155                     160
Trp Ile Asn Gly His Pro Ala Glu Gln Ala Thr Arg Ile Val Ile Leu
                    165                     170                     175
Gly Pro Glu Val Met Glu Val Ala Gln Gly Ser Pro Phe Ser Val Asn
                180                     185                     190
Val Gln Leu Leu Gln Asp His Gly Glu Ile Ala Lys Ser Lys His Leu
        195                     200                     205
Gln Gly Glu Met Thr
    210
```

<210> 5165
<211> 2370
<212> DNA
<213> Homo sapiens

<400> 5165
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cagtccagtg ctgctgtcgc tggaaccctg cagagggcgg tgggtgagcg gctggggccc
60
cgtggagcca ccatggaccc cgcaggggca gcagacccct cagtgcctcc caatcctttg
120
actcacctga gcctgcagga cagatcagag atgcagctgc agagcgaagc cgacaggcgg
180
agcctcccgg gcacttggac caggtcatcc ccagagcaca ccaccattct gaggggaggc
240
gtgcgcaggt gcctgcagca acagtgtgaa cagactgtgc ggatcctgca tgccaaggtg
300
gcccagaaat catacggaaa tgagaagcgg ttcttctgcc ccccgccctg tgtctacctc
360
tcggggcctg gctggagggt gaagccaggg caggatcaag ctcaccaggc gggggaaacg
420
gggcccacgg tctgcggtta catgggactg gacagcgcgt ccggcagcgc cactgagacg
480
cagaagctga atttcgagca gcagccggac tccagggaat tcggctgcgc caagaccctg
540
tacatctcag atgcagacaa gaggaagcac tttcggctgg tgctgcggct ggtgctgcgc
600
ggggccgggg agctgggtac cttccacagc cgccttatca aggtcatctc gaagccctcg
660
cagaagaagc agtcgctgaa aaacaccgat ctgtgcatat cctccggctc aaaggtctcc
720
ctcttcaacc gcctgcgctc tcagacggtc tccacacgct acctctctgt ggaggatggg
780
gcctttgtgg ccagtgcacg acagtgggct gccttcacgc tccacctggc tgatgggcac
840
tctgcccaag agacttccc accgcgagag ggctacgttc gctatggctc cctggtgcag
900
ctcgtctgca cggtcaccgg catcacacta cctcccatga tcatccgtaa agtagcaaaa
960
cagtgtgcgc tccttgatgt ggatgagccc atctcccagc tgcacaagtg tgcattccag
1020
tttccaggca gtcccccagg agggggtggc acctacttat gccttgccac agagaaggtg
1080
```

gtgcaatttc aggcctctcc ctgccccaag gaggcgaaca gggctctgct taacgacagc
1140
tcttgctgga ccatcatcgg caccgagtcg gtggaatttt ccttcagcac cagcctggcg
1200
tgtaccctgg agccggtcac tccggtgcct ctcatcagca ccctagagct gagcggcggg
1260
ggcgacgtgg ccacgctgga gctccacgga gagaacttcc acgcggggct caaggtgtgg
1320
tttggggacg tggaggcaga aaccatgtac aggtacgggg tgnngagccc gcggtccctg
1380
gtgtgcgtgg tgccggacgt ggcggccttc tgcagcgact ggcgctggct gcgcgctccc
1440
atcacaatcc ccatgagcct ggtgcgcgcc gacgggctct tctaccctag tgccttctcc
1500
ttcacctaca ccccggaata cagcgtgcgg ccgggtcacc ccggcgtccc cgagcccgcc
1560
accgacgccg acgcgctcct ggagagcatc catcaggagt tcacgcgcac caacttccac
1620
ctcttcatcc agacttaggc gcgcccggta gccccggctg cccaccctgg agggctgcgc
1680
ccgcgccagg cgcggggacg tgtttctggg ttctaggccc tgcttccttg cccctttgct
1740
gcagaagggc agctgaaggc tcaccctaga aaccgggcct ggtgggtctt acccggctca
1800
ctccctccct tgtccttaca catacaggaa gacaagacct gagtggtgct gtctttgtgt
1860
ccgtcgtgta tggctctccc tgtcttcatt tcttctcact ctgtctctaa acctctctct
1920
ctctcccttc cccctcagta cttagtctac agacctatgt gcgtgtccct atccttctgt
1980
cctttctct cttcagctct ccctgcctct cacacacaat tttacatgcc ccgaggagcc
2040
aagtttggga catttaccct ccaggcatct atgtcccctc ttgaagagaa aacacacagc
2100
ttcacacatc caggcatagg gggcaagctc ttggggcatc aggaccctgg agcaccaggt
2160
ccttcctgga atattagatc cacctggaga accgggtctc tctaagtctc acctggggaa
2220
ttcggtccca cctggggcac cagttcccac ctagagcact gtgtcctgcc ctagagcaca
2280
aagacctgct cctcccgaga ctctctctga ctgcagccag gcatagtacc cttgcctgtg
2340
tttgctccct ggtccacaga tttggtggct
2370

<210> 5166
<211> 521
<212> PRT
<213> Homo sapiens

<400> 5166
Met Asp Pro Ala Gly Ala Ala Asp Pro Ser Val Pro Pro Asn Pro Leu
1   5   10   15
Thr His Leu Ser Leu Gln Asp Arg Ser Glu Met Gln Leu Gln Ser Glu

```
                20                         25                         30
Ala Asp Arg Arg Ser Leu Pro Gly Thr Trp Thr Arg Ser Ser Pro Glu
        35                         40                         45
His Thr Thr Ile Leu Arg Gly Gly Val Arg Arg Cys Leu Gln Gln Gln
    50                         55                         60
Cys Glu Gln Thr Val Arg Ile Leu His Ala Lys Val Ala Gln Lys Ser
65                         70                         75                 80
Tyr Gly Asn Glu Lys Arg Phe Phe Cys Pro Pro Pro Cys Val Tyr Leu
                85                         90                         95
Ser Gly Pro Gly Trp Arg Val Lys Pro Gly Gln Asp Gln Ala His Gln
            100                        105                        110
Ala Gly Glu Thr Gly Pro Thr Val Cys Gly Tyr Met Gly Leu Asp Ser
        115                        120                        125
Ala Ser Gly Ser Ala Thr Glu Thr Gln Lys Leu Asn Phe Glu Gln Gln
    130                        135                        140
Pro Asp Ser Arg Glu Phe Gly Cys Ala Lys Thr Leu Tyr Ile Ser Asp
145                        150                        155                160
Ala Asp Lys Arg Lys His Phe Arg Leu Val Leu Arg Leu Val Leu Arg
                165                        170                        175
Gly Gly Arg Glu Leu Gly Thr Phe His Ser Arg Leu Ile Lys Val Ile
            180                        185                        190
Ser Lys Pro Ser Gln Lys Lys Gln Ser Leu Lys Asn Thr Asp Leu Cys
        195                        200                        205
Ile Ser Ser Gly Ser Lys Val Ser Leu Phe Asn Arg Leu Arg Ser Gln
    210                        215                        220
Thr Val Ser Thr Arg Tyr Leu Ser Val Glu Asp Gly Ala Phe Val Ala
225                        230                        235                240
Ser Ala Arg Gln Trp Ala Ala Phe Thr Leu His Leu Ala Asp Gly His
                245                        250                        255
Ser Ala Gln Gly Asp Phe Pro Pro Arg Glu Gly Tyr Val Arg Tyr Gly
            260                        265                        270
Ser Leu Val Gln Leu Val Cys Thr Val Thr Gly Ile Thr Leu Pro Pro
        275                        280                        285
Met Ile Ile Arg Lys Val Ala Lys Gln Cys Ala Leu Leu Asp Val Asp
    290                        295                        300
Glu Pro Ile Ser Gln Leu His Lys Cys Ala Phe Gln Phe Pro Gly Ser
305                        310                        315                320
Pro Pro Gly Gly Gly Gly Thr Tyr Leu Cys Leu Ala Thr Glu Lys Val
                325                        330                        335
Val Gln Phe Gln Ala Ser Pro Cys Pro Lys Glu Ala Asn Arg Ala Leu
            340                        345                        350
Leu Asn Asp Ser Ser Cys Trp Thr Ile Ile Gly Thr Glu Ser Val Glu
        355                        360                        365
Phe Ser Phe Ser Thr Ser Leu Ala Cys Thr Leu Glu Pro Val Thr Pro
    370                        375                        380
Val Pro Leu Ile Ser Thr Leu Glu Leu Ser Gly Gly Gly Asp Val Ala
385                        390                        395                400
Thr Leu Glu Leu His Gly Glu Asn Phe His Ala Gly Leu Lys Val Trp
                405                        410                        415
Phe Gly Asp Val Glu Ala Glu Thr Met Tyr Arg Tyr Gly Val Xaa Ser
            420                        425                        430
Pro Arg Ser Leu Val Cys Val Val Pro Asp Val Ala Ala Phe Cys Ser
        435                        440                        445
Asp Trp Arg Trp Leu Arg Ala Pro Ile Thr Ile Pro Met Ser Leu Val
```

```
            450                 455                 460
Arg Ala Asp Gly Leu Phe Tyr Pro Ser Ala Phe Ser Phe Thr Tyr Thr
465                     470                 475                 480
Pro Glu Tyr Ser Val Arg Pro Gly His Pro Gly Val Pro Glu Pro Ala
                485                 490                 495
Thr Asp Ala Asp Ala Leu Leu Glu Ser Ile His Gln Glu Phe Thr Arg
                500                 505                 510
Thr Asn Phe His Leu Phe Ile Gln Thr
        515                 520
```

```
<210> 5167
<211> 878
<212> DNA
<213> Homo sapiens


<400> 5167
gggccccgga ccaggcgctg gggacacagc agtgaaaata ctaacattgt ttctgccctc
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acggagctca cagtgtaaca gggagacaaa tagacctgtc agtagataac atgaaaataa
120
ttggactgtg tgctgcagac acaatatccc aggtctatga gaatgtcaat acagacttca
180
cgtgggaaat ggtgaggcaa taaggatcgt ttccttgat gaaatggagc ttgcagaaga
240
aggcagggtc agttgtgggg agctctgggt ggaggtggag ggagtgcatt ccaagctgag
300
ccaagctatg acacctgagt ttcctgcctc tgtgctgcct ccctgttttc cattcccggt
360
tctcagcttc acttgtgggc tgagagtccc tgcgtgggtt attttctgc ctttctcagg
420
gccttgggtt ccccaaatgt cacatgggca cagtaacacc catgtcctag ggttgaagat
480
ggcatgatat gatgtatgta aaatgcttgg cacaaggttt ctcaccgaag tctggaggag
540
ctgtccaggg ttctggagac gaaacggagc ccgctgggaa ctgtcctgag ccccggtgct
600
gaaacagatc gcggttctct tctcggacct cccgagaggc gctgtccgga tatttggtgc
660
tcccaagcag tcagccctgc tggtctctgc tttccagacc gtcaaacttc gccatctctg
720
tcccttttttg ggaaaatgtc catgcgccaa cctgcaaacc agcctcattc ccggcatccc
780
acgtccctca gaccacccct cctcccacgc agctgcggga ctccccctct gtgtgcctca
840
cctgcttcca gtcttgttgg cagatgcagg tgtcccgt
878


<210> 5168
<211> 199
<212> PRT
<213> Homo sapiens


<400> 5168
Met Pro Gly Met Arg Leu Val Cys Arg Leu Ala His Gly His Phe Pro
```

```
  1                  5                      10                    15
Lys Lys Gly Gln Arg Trp Arg Ser Leu Thr Val Trp Lys Ala Glu Thr
                20                      25                    30
Ser Arg Ala Asp Cys Leu Gly Ala Pro Asn Ile Arg Thr Ala Pro Leu
                35                      40                    45
Gly Arg Ser Glu Lys Arg Thr Ala Ile Cys Phe Ser Thr Gly Ala Gln
                50                      55                    60
Asp Ser Ser Gln Arg Ala Pro Phe Arg Leu Gln Asn Pro Gly Gln Leu
65                      70                      75                    80
Leu Gln Thr Ser Val Arg Asn Leu Val Pro Ser Ile Leu His Thr Ser
                85                      90                    95
Tyr His Ala Ile Phe Asn Pro Arg Thr Trp Val Leu Leu Cys Pro Cys
                100                     105                   110
Asp Ile Trp Gly Thr Gln Gly Pro Glu Lys Gly Arg Lys Ile Thr His
                115                     120                   125
Ala Gly Thr Leu Ser Pro Gln Val Lys Leu Arg Thr Gly Asn Gly Lys
                130                     135                   140
Gln Gly Gly Ser Thr Glu Ala Gly Asn Ser Gly Val Ile Ala Trp Leu
145                     150                     155                   160
Ser Leu Glu Cys Thr Pro Ser Thr Ser Thr Gln Ser Ser Pro Gln Leu
                165                     170                   175
Thr Leu Pro Ser Ser Ala Ser Ser Ile Ser Ser Arg Glu Thr Ile Leu
                180                     185                   190
Ile Ala Ser Pro Phe Pro Thr
                195
```

```
<210> 5169
<211> 609
<212> DNA
<213> Homo sapiens
```

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<400> 5169
accggtggct ttgcactcta cccgctgctc aacgaggctg cgccgttggc gctggggggcc
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ggtttggtgc ctgaggagct gccaccatcc cgcggggggcc tgggtgaggc actgggtgcc
120
gtggagctta gcctcagcga gttcctgcta ctcttcacca ctgctggcat ctacgtggat
180
ggcgcaggcc gcaagtctcg tggccacgag ctgttgtggc cagcagcgcc catgggctgg
240
gggtatgcgg cccccctacct gacagtgttc agcgagaact ccatcgatgt gtttgacgtg
300
aggagggcag aatgggtgca gaccgtgccg ctcaagaagg tgcggcccct caatccagag
360
ggctccctgt tcctctacgg caccgagaag gtccgcctga cctacctcag gaaccagctg
420
gcagagaagg acgagttcga catcccggac ctcaccgaca acagccggcg ccagctgttc
480
ctcaccaaga gcaagcgccg cttcttttc cgcgtgtcgg aggagcagca gaagcagcag
540
cgcagggaga tgctgaagga cccttttgtg cgctccaagc tcatctcgcc gcctaccaac
600
ttcaaccac
609
```

<210> 5170
<211> 203
<212> PRT
<213> Homo sapiens

<400> 5170
Thr Gly Gly Phe Ala Leu Tyr Pro Leu Leu Asn Glu Ala Ala Pro Leu
 1   5   10   15
Ala Leu Gly Ala Gly Leu Val Pro Glu Glu Leu Pro Pro Ser Arg Gly
            20   25   30
Gly Leu Gly Glu Ala Leu Gly Ala Val Glu Leu Ser Leu Ser Glu Phe
        35   40   45
Leu Leu Leu Phe Thr Thr Ala Gly Ile Tyr Val Asp Gly Ala Gly Arg
    50   55   60
Lys Ser Arg Gly His Glu Leu Leu Trp Pro Ala Ala Pro Met Gly Trp
65   70   75   80
Gly Tyr Ala Ala Pro Tyr Leu Thr Val Phe Ser Glu Asn Ser Ile Asp
                85   90   95
Val Phe Asp Val Arg Arg Ala Glu Trp Val Gln Thr Val Pro Leu Lys
            100   105   110
Lys Val Arg Pro Leu Asn Pro Glu Gly Ser Leu Phe Leu Tyr Gly Thr
        115   120   125
Glu Lys Val Arg Leu Thr Tyr Leu Arg Asn Gln Leu Ala Glu Lys Asp
    130   135   140
Glu Phe Asp Ile Pro Asp Leu Thr Asp Asn Ser Arg Arg Gln Leu Phe
145   150   155   160
Leu Thr Lys Ser Lys Arg Arg Phe Phe Phe Arg Val Ser Glu Glu Gln
                165   170   175
Gln Lys Gln Gln Arg Arg Glu Met Leu Lys Asp Pro Phe Val Arg Ser
                180   185   190
Lys Leu Ile Ser Pro Pro Thr Asn Phe Asn His
        195   200

<210> 5171
<211> 2060
<212> DNA
<213> Homo sapiens

<400> 5171
gaacagaggg ggtggaaact gcatcacaga tgttttccaa ggtccagggt ggaatctgag
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ctctagtgtc tgactttgag atgcattata tttttaacac ataaatgagg ggatccatat
120
cacattcttt cttgtggacc accaaattga aggctttctt gtaattcaca agcagcagct
180
ctccagcatc tctccgtagc ctgggtgaag tcccagaagc tggtgtgcat cattttccaa
240
ggtggcagag ctgcttgctc tgcagatcat tcctttgaga gaggagtaca agtgaagaaa
300
caaggaggca cttcctgtag gagcactgat gtgccttgtc cacactcccc tctgagcttt
360
actggtaaga gagctccgac tgaacatgct gagcagttga gcactttttcc atcagcaaca
420

```
acagcgagga tggaaatgga aaggaaccga actaaaatgc atttcccttt gcagggcaga
480
gagctaagct cttaggaata gtgttataga aataagcacc ctaacttcaa ttcctgaaaa
540
tgttggttaa tggagagaat tttggagttt cacttaatat tttcccatcg gtcgccataa
600
ataagtcttc aggcgctcct agaagagtcc cagcccaagg ctcgattaag gaccacactg
660
caggtctgag gctcactgct ctgagtcctg aacaccagag ccctgcagag agtggtgata
720
acacatcatc tctgcaaaga ggaacctctc ccccggccgc cacttcactc aggcttctac
780
tgagcagcaa ggacagcctg ggtttcaaat gccacttccc ctgctttagg gatccaggtg
840
tcctgatagc gtgaccctgc tgaggcaagg tatcaactcc gagagtgact gagtcactga
900
gcgtggcaca tgaacaaacg tcatgacaaa gattctctga gtgaagttaa caccacgtat
960
tttacctttg caaaaaacaa actggcaccc tgagttctaa ctacggacgg acgatatctt
1020
tgcctccaca cccagattcc tggaaatggc taacgtttcc tttctagggg aagggtcgag
1080
gaatactcaa gtgctagctt agcagctttg ttcagtccag atcagagctg ttaggtaaag
1140
gcctaaccac ctccctgcag tctcttatat ctcaagcttt aggaacccat ttctaaatgt
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1320
gttatattca ctgtggctca aactaattgg cattgtggaa catttcttta ccttcaaagt
1380
tttctccacc aatcatttca gttctattgc agtcctggtg ccatatgtcc cctgcaaatt
1440
gtgaaagtaa ttagtgacaa aatagcagcc tgctcctttt caatggcgaa actgtcggca
1500
ttagcagttt tgggtaagct ggcggtacta taacacgtac tggaaacctg ttcctcatca
1560
ccacctacca gattctggaa atgccgtctt ctagaaaacg atggcgtttg tggtggtctt
1620
cttttgaaag gaacagtaat ttgtgtggat attgttaaag tgtttaaaga atattttgac
1680
aattaagttt acattttaca attgctttat tttttattaa aatagttgta tataaatatt
1740
accctatttc actgttgttc aagtaaatct aaaccttgta gacaagtgag tcacctgata
1800
tgtatagaag ctgtgatata tagagtacat ttattgtgta aatgtttatg aatataattg
1860
ttcctgtgtt tttataagtt ggggatattt tgttgtttta cggcaacaaa atttattgca
1920
tttaaatggt ttttatgtaa tagaaatcac gcaaaatagt gaaggattta aaatatgtat
1980
atgatacatg taaatgtaca aactttagaa agaaataaat ccaacaaatt tcaaaaaaaa
2040
```

aaaaaaaaaa aaaaaaaaaa
2060

<210> 5172
<211> 104
<212> PRT
<213> Homo sapiens

<400> 5172

```
Met Leu Val Asn Gly Glu Asn Phe Gly Val Ser Leu Asn Ile Phe Pro
1               5                   10                  15
Ser Val Ala Ile Asn Lys Ser Ser Gly Ala Pro Arg Arg Val Pro Ala
            20                  25                  30
Gln Gly Ser Ile Lys Asp His Thr Ala Gly Leu Arg Leu Thr Ala Leu
        35                  40                  45
Ser Pro Glu His Gln Ser Pro Ala Glu Ser Gly Asp Asn Thr Ser Ser
    50                  55                  60
Leu Gln Arg Gly Thr Ser Pro Pro Ala Ala Thr Ser Leu Arg Leu Leu
65                  70                  75                  80
Leu Ser Ser Lys Asp Ser Leu Gly Phe Lys Cys His Phe Pro Cys Phe
                85                  90                  95
Arg Asp Pro Gly Val Leu Ile Ala
                100
```

<210> 5173
<211> 557
<212> DNA
<213> Homo sapiens

<400> 5173

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ctttgatgcc tttattgatt caacacatgc ttattatatg cttgctgtgt gccgggcccc
60
agaccaggcg ctggagacac agcagtgaaa atactaacat tgtttctgcc ctcacggagc
120
tcacagtgta acagggagac aaatagacct gtcagtagat aacatgaaaa taattggact
180
atgtgctgca gacacaatat cccaggtcta tgagaatgtc aatacagact tcacgtggga
240
aatggtgagg caataaggat cgtttccctt gatgaaatgg agcttgcaga agaaggcagg
300
gtcagttgtg gggagctctg gttggaggtg gagggagtgc attccaagct ggaggagctg
360
tccagggttc tggagactaa acggagcccg ctgggaactg tcctgagccc cggtgctgaa
420
acagatcgcg gttctcttct cggacctccc gagaagcgct gtccggatat ttggtgctcc
480
caagcagtca gccctgctgg tctctgcttt ccagaccggc aaacttcgcc gtctctgtcc
540
ctttctggga aaatggc
557
```

<210> 5174
<211> 93
<212> PRT

<213> Homo sapiens

<400> 5174
Met Glu Leu Ala Glu Glu Gly Arg Val Ser Cys Gly Glu Leu Trp Leu
1   5   10   15
Glu Val Glu Gly Val His Ser Lys Leu Glu Glu Leu Ser Arg Val Leu
            20   25   30
Glu Thr Lys Arg Ser Pro Leu Gly Thr Val Leu Ser Pro Gly Ala Glu
        35   40   45
Thr Asp Arg Gly Ser Leu Leu Gly Pro Pro Glu Lys Arg Cys Pro Asp
    50   55   60
Ile Trp Cys Ser Gln Ala Val Ser Pro Ala Gly Leu Cys Phe Pro Asp
65   70   75   80
Arg Gln Thr Ser Pro Ser Leu Ser Leu Ser Gly Lys Met
                85   90

<210> 5175
<211> 272
<212> DNA
<213> Homo sapiens

<400> 5175
ccatggcagc tccagagacc aggtggaggg gaaatcaccc cacgctcccg agcagagagc
60
ttcggagcca gccagcctca ctgtgcgtgg cccacaacag ctgtctccat gtgtcacgtg
120
agggctgccc aacaccaggt agggcagcaa cgcccacgcc ctcgccgggc acagcctccc
180
agaggtcact gccatgccgc actgaccgga gagagggcag tggtgagagg tgcatgccac
240
cccaggcttg ttccgaaggc ccnnnnnncc nc
272

<210> 5176
<211> 90
<212> PRT
<213> Homo sapiens

<400> 5176
Met Ala Ala Pro Glu Thr Arg Trp Arg Gly Asn His Pro Thr Leu Pro
1   5   10   15
Ser Arg Glu Leu Arg Ser Gln Pro Ala Ser Leu Cys Val Ala His Asn
            20   25   30
Ser Cys Leu His Val Ser Arg Glu Gly Cys Pro Thr Pro Gly Arg Ala
        35   40   45
Ala Thr Pro Thr Pro Ser Pro Gly Thr Ala Ser Gln Arg Ser Leu Pro
    50   55   60
Cys Arg Thr Asp Arg Arg Glu Gly Ser Gly Glu Arg Cys Met Pro Pro
65   70   75   80
Gln Ala Cys Ser Glu Gly Pro Xaa Xaa Xaa
                85   90

<210> 5177
<211> 637

<212> DNA
<213> Homo sapiens

<400> 5177
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60
gtgtcgcagg aagtgacgtt tcgggtacag ccgctaccag agtcccttc tcgcgaggcg
120
gaagaacccc gatcgctgag gagcaagggg gcgctaggaa agggaactgg gttgcgacgg
180
tccggcgaga gagagctggg gtgctggggt gcggggaagt tggggagcag aggccgcttg
240
gtgtccgagt agggtaagac cgcaccgacc cagtccgtta ggaaagaagg gaaacgaggc
300
aattgtcggg cggatccccg gacggagggc taaggttgtg tggaaggcgc tgctccccgg
360
atggcgaccg cagatactcc ggccccggcc tccagtggcc tctcgccgaa ggaagaaggg
420
gagcttgaag atggggaaat cagtgacgac gataataaca gccagatacg gagtcggagc
480
agcagcagca gcagcggcgg cgggctgtta ccctatccgc ggcgaaggcc tcctcactcg
540
gcccggggcg gtggatctgg cggaggcggt ggctcttcct cgtcatcgtc ctcttctcag
600
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637

<210> 5178
<211> 92
<212> PRT
<213> Homo sapiens

<400> 5178
Met Ala Thr Ala Asp Thr Pro Ala Pro Ala Ser Ser Gly Leu Ser Pro
1   5   10   15
Lys Glu Glu Gly Glu Leu Glu Asp Gly Glu Ile Ser Asp Asp Asp Asn
            20   25   30
Asn Ser Gln Ile Arg Ser Arg Ser Ser Ser Ser Ser Gly Gly Gly
        35   40   45
Leu Leu Pro Tyr Pro Arg Arg Arg Pro Pro His Ser Ala Arg Gly Gly
    50   55   60
Gly Ser Gly Gly Gly Gly Gly Ser Ser Ser Ser Ser Ser Ser Ser Gln
65   70   75   80
Gln Gln Leu Arg Asn Phe Ser Arg Ser Arg His Ala
                85   90

<210> 5179
<211> 1527
<212> DNA
<213> Homo sapiens

<400> 5179
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60

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120
gatgccatgt ggctggacat agagcacact gagggcaaga ggtacttcac ctgggacaaa
180
aacagattcc ctaaccccaa gaggatgcaa gagctgctca ggaacaaaaa gcgtaagctt
240
gtggtcatca gtgatcccca catcaagatt gaacctgact actcagtata tgtgaaggcc
300
aaagatcagg gcttctttgt gaagaatcag gaaggggaag actttgaagg ggtgtgttgg
360
ccaggtctct cctcttacct ggatttcacc aatcccaagg tcagagagtg gtattcaagt
420
ctttttgctt tccctgttta tcagggatct acggacatcc tcttcctttg gaatgacatg
480
aatgagcctt ctgtctttag agggccagag caaaccatgc agaagaatgc cattcatcat
540
ggcaattggg agcacagaga gctccacaac atctacggtt tttatcatca aatggctact
600
gcagaaggac tgataaaacg atctaaaggg aaggagagac cctttgttct tacacgttct
660
ttctttgctg gatcacaaaa gtatggtgcc gtgtggacag cgacaacac agcagaatgg
720
agcaacttga aaatttctat cccaatgtta ctcactctca gcattactgg gatctctttt
780
tgcggagctg acataggcgg gttcattggg aatccagaga cagagctgct agtgcgttgg
840
taccaggctg gagcctacca gcccttcttc cgtggccatg ccaccatgaa caccaagcga
900
cgagagccct ggctctttgg ggaggaacac acccgactca tccgagaagc catcagagag
960
cgctatggcc tcctgccata ttggtattct ctgttctacc atgcacacgt ggcttcccaa
1020
cctgtcatga ggcctctgtg ggtagagttc cctgatgaac taaagacttt tgatatggaa
1080
gatgaataca tgctggggag tgcattattg gttcatccag tcacagaacc aaaagccacc
1140
acagttgatg tgtttcttcc aggatcaaat gaggtctggt atgactataa gacatttgct
1200
cattgggaag gagggtgtac tgtaaagatc ccagtagcct tggacactat tccagtgttt
1260
cagcgaggtg gaagtgtgat accaataaag acaactgtag gaaaatccac aggctggatg
1320
actgaatcct cctagggact ccgggttgct ctaagcacta agggttcttc agtgggtgag
1380
ttatatcttg atgatggcca ttcattccaa tacctccacc agaagcaatt tttgcacagg
1440
aagttttcat tctgttccag tgttctgatc aatagttttg ctgaccagag gggtcattat
1500
cccagcaagt gtgtggtgga gaagatc
1527
```

```
<210> 5180
<211> 444
<212> PRT
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<213> Homo sapiens

<400> 5180
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Thr Trp Asn Tyr Glu Val Glu Pro Asp Val Lys Ala Val Asp Ala Gly
        20              25              30
Phe Asp Gly His Asp Ile Pro Tyr Asp Ala Met Trp Leu Asp Ile Glu
        35              40              45
His Thr Glu Gly Lys Arg Tyr Phe Thr Trp Asp Lys Asn Arg Phe Pro
    50              55              60
Asn Pro Lys Arg Met Gln Glu Leu Leu Arg Asn Lys Lys Arg Lys Leu
65              70              75              80
Val Val Ile Ser Asp Pro His Ile Lys Ile Glu Pro Asp Tyr Ser Val
            85              90              95
Tyr Val Lys Ala Lys Asp Gln Gly Phe Phe Val Lys Asn Gln Glu Gly
            100             105             110
Glu Asp Phe Glu Gly Val Cys Trp Pro Gly Leu Ser Ser Tyr Leu Asp
        115             120             125
Phe Thr Asn Pro Lys Val Arg Glu Trp Tyr Ser Ser Leu Phe Ala Phe
    130             135             140
Pro Val Tyr Gln Gly Ser Thr Asp Ile Leu Phe Leu Trp Asn Asp Met
145             150             155             160
Asn Glu Pro Ser Val Phe Arg Gly Pro Glu Gln Thr Met Gln Lys Asn
                165             170             175
Ala Ile His His Gly Asn Trp Glu His Arg Glu Leu His Asn Ile Tyr
        180             185             190
Gly Phe Tyr His Gln Met Ala Thr Ala Glu Gly Leu Ile Lys Arg Ser
        195             200             205
Lys Gly Lys Glu Arg Pro Phe Val Leu Thr Arg Ser Phe Phe Ala Gly
    210             215             220
Ser Gln Lys Tyr Gly Ala Val Trp Thr Gly Asp Asn Thr Ala Glu Trp
225             230             235             240
Ser Asn Leu Lys Ile Ser Ile Pro Met Leu Leu Thr Leu Ser Ile Thr
                245             250             255
Gly Ile Ser Phe Cys Gly Ala Asp Ile Gly Gly Phe Ile Gly Asn Pro
            260             265             270
Glu Thr Glu Leu Leu Val Arg Trp Tyr Gln Ala Gly Ala Tyr Gln Pro
        275             280             285
Phe Phe Arg Gly His Ala Thr Met Asn Thr Lys Arg Arg Glu Pro Trp
    290             295             300
Leu Phe Gly Glu Glu His Thr Arg Leu Ile Arg Glu Ala Ile Arg Glu
305             310             315             320
Arg Tyr Gly Leu Leu Pro Tyr Trp Tyr Ser Leu Phe Tyr His Ala His
            325             330             335
Val Ala Ser Gln Pro Val Met Arg Pro Leu Trp Val Glu Phe Pro Asp
            340             345             350
Glu Leu Lys Thr Phe Asp Met Glu Asp Glu Tyr Met Leu Gly Ser Ala
        355             360             365
Leu Leu Val His Pro Val Thr Glu Pro Lys Ala Thr Thr Val Asp Val
    370             375             380
Phe Leu Pro Gly Ser Asn Glu Val Trp Tyr Asp Tyr Lys Thr Phe Ala
385             390             395             400
His Trp Glu Gly Gly Cys Thr Val Lys Ile Pro Val Ala Leu Asp Thr
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                    405                   410                   415
    Ile Pro Val Phe Gln Arg Gly Gly Ser Val Ile Pro Ile Lys Thr Thr
                420                   425               430
    Val Gly Lys Ser Thr Gly Trp Met Thr Glu Ser Ser
            435                   440
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<210> 5181
<211> 4961
<212> DNA
<213> Homo sapiens

<400> 5181
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120
cgtatgattc tcaggaaaag tgggcaggat atctgactgt caggtgtgcc ggcagaaggt
180
tctggcctct tcctgggaaa agcccttta gagtttgtcc tctcacttct ggagaagatg
240
cagacacagg agatcctgag gatactgcga ctgcctgagc taggtgactt gggacagttt
300
ttccgcagcc tctcggccac caccctcgtg agtatgggtg ccctggctgc catccttgcc
360
tactggttca ctcaccggcc aaaggccttg caaccaccat gcaacctcct gatgcagtcg
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gaagaagtag aggacagtgg cggggcacgg cgatctgtga ttgggtctgg ccctcaattg
480
cttacccatt actatgatga tgcccggacc atgtaccagg tgttccgccg tgggcttagc
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600
tcctaccagg aggtggccga cagggctgaa tttctggggt ccggacttct ccagcacaat
660
tgtaaagcat gcactgatca gtttattggt gtttttgcac aaaatcggcc agagtggatc
720
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780
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900
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960
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1020
cctgtgcccc cgcagcctga tgacctctcc attgtgtgtt tcacaagcgg cacgacaggg
1080
aacccaaaag gtgcgatgct cacccatggg aacgtggtgg ctgatttctc aggctttctg
1140
aaagtgacag agagtcagtg ggctcccact tgtgcggatg tgcacatttc ctatttgcct
1200
ttagcacaca tgtttgagcg aatggtgcag tctgtcgtct attgccacgg agggcgtgtt
1260
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ggcttcttcc aggggagatat ccgccttctc tcagatgaca tgaaggctct atgccccacc
1320
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1380
aacacaccat taaagcgctg gctcctggag tttgcagcaa agcgtaagca agccgaggtc
1440
cggagtggaa tcatcaggaa tgatagtatc tgggatgaac tcttctttaa taagattcag
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gccagtcttg gtgggtgtgt gcggatgatt gttactggag cagccccagc atcaccaaca
1560
gttctgggat ttctccgggc agctctaggg tgccaggttt atgaaggtta tggccaaact
1620
gagtgcacag ctggatgtac cttcaccact cctggcgact ggacctcagg gcacgtaggg
1680
gcgccacttc cctgcaatca tatcaagctc gttgatgttg aggaactgaa ctactgggcc
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1800
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1860
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1920
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1980
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2100
gcagatctct gcacaaataa ggatctgaag aaagccattt tggaagatat ggtgaggtta
2160
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2220
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2280
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2400
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2580
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2640
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2700
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2760
cacaattaaa tcagacttca aaaattaaag ctaggtgtat agaatcatgc taaaagaaaa
2820
catgataact catagtctac gtaacttcag agtctttaaa catgacaatc cacattgtca
2880
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                                        4359

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tatgtgaaaa ttttctctct gattttract ttcattcatg aaaaatgaaa attcagaaat
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3060
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3120
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3180
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3240
gatattatta aaacacatgt catatttata tagtaactta caaagacctt tcaatacatt
3300
ttctcattta ttaagctcat taaagtattc aggaactacc tagaaaaaat ataatgtaaa
3360
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3420
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3480
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3600
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3660
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3720
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3780
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3900
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4320
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4380
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4500
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aaaaagaatc tgtttcccat tgtcctccta ctcaactaaa attcatagtt ggctttaagc
4560
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4620
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4680
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4740
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4860
ctgaggcagg ggaatggcat gagcctggga ggcggagctt gcagtgagcc gagatcccgc
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4961

<210> 5182
<211> 697
<212> PRT
<213> Homo sapiens

<400> 5182
Met Gln Thr Gln Glu Ile Leu Arg Ile Leu Arg Leu Pro Glu Leu Gly
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Asp Leu Gly Gln Phe Phe Arg Ser Leu Ser Ala Thr Thr Leu Val Ser
                20   25   30
Met Gly Ala Leu Ala Ala Ile Leu Ala Tyr Trp Phe Thr His Arg Pro
        35   40   45
Lys Ala Leu Gln Pro Pro Cys Asn Leu Leu Met Gln Ser Glu Glu Val
    50   55   60
Glu Asp Ser Gly Gly Ala Arg Arg Ser Val Ile Gly Ser Gly Pro Gln
65   70   75   80
Leu Leu Thr His Tyr Tyr Asp Asp Ala Arg Thr Met Tyr Gln Val Phe
                85   90   95
Arg Arg Gly Leu Ser Ile Ser Gly Asn Gly Pro Cys Leu Gly Phe Arg
                100   105   110
Lys Pro Lys Gln Pro Tyr Gln Trp Leu Ser Tyr Gln Glu Val Ala Asp
        115   120   125
Arg Ala Glu Phe Leu Gly Ser Gly Leu Leu Gln His Asn Cys Lys Ala
    130   135   140
Cys Thr Asp Gln Phe Ile Gly Val Phe Ala Gln Asn Arg Pro Glu Trp
145   150   155   160
Ile Ile Val Glu Leu Ala Cys Tyr Thr Tyr Ser Met Val Val Val Pro
                165   170   175
Leu Tyr Asp Thr Leu Gly Pro Gly Ala Ile Arg Tyr Ile Ile Asn Thr
                180   185   190
Ala Asp Ile Ser Thr Val Ile Val Asp Lys Pro Gln Lys Ala Val Leu
        195   200   205
Leu Leu Glu His Val Glu Arg Lys Glu Thr Pro Gly Leu Lys Leu Ile
    210   215   220
Ile Leu Met Asp Pro Phe Glu Glu Ala Leu Lys Glu Arg Gly Gln Lys
225   230   235   240
Cys Gly Val Val Ile Lys Ser Met Gln Ala Val Glu Asp Cys Gly Gln

4361

```
                     245                    250                    255
Glu Asn His Gln Ala Pro Val Pro Pro Gln Pro Asp Asp Leu Ser Ile
            260                    265                    270
Val Cys Phe Thr Ser Gly Thr Thr Gly Asn Pro Lys Gly Ala Met Leu
            275                    280                    285
Thr His Gly Asn Val Val Ala Asp Phe Ser Gly Phe Leu Lys Val Thr
        290                    295                    300
Glu Ser Gln Trp Ala Pro Thr Cys Ala Asp Val His Ile Ser Tyr Leu
305                    310                    315                    320
Pro Leu Ala His Met Phe Glu Arg Met Val Gln Ser Val Val Tyr Cys
                325                    330                    335
His Gly Gly Arg Val Gly Phe Phe Gln Gly Asp Ile Arg Leu Leu Ser
                340                    345                    350
Asp Asp Met Lys Ala Leu Cys Pro Thr Ile Phe Pro Val Val Pro Arg
            355                    360                    365
Leu Leu Asn Arg Met Tyr Asp Lys Ile Phe Ser Gln Ala Asn Thr Pro
        370                    375                    380
Leu Lys Arg Trp Leu Leu Glu Phe Ala Ala Lys Arg Lys Gln Ala Glu
385                    390                    395                    400
Val Arg Ser Gly Ile Ile Arg Asn Asp Ser Ile Trp Asp Glu Leu Phe
                405                    410                    415
Phe Asn Lys Ile Gln Ala Ser Leu Gly Gly Cys Val Arg Met Ile Val
            420                    425                    430
Thr Gly Ala Ala Pro Ala Ser Pro Thr Val Leu Gly Phe Leu Arg Ala
            435                    440                    445
Ala Leu Gly Cys Gln Val Tyr Glu Gly Tyr Gly Gln Thr Glu Cys Thr
        450                    455                    460
Ala Gly Cys Thr Phe Thr Thr Pro Gly Asp Trp Thr Ser Gly His Val
465                    470                    475                    480
Gly Ala Pro Leu Pro Cys Asn His Ile Lys Leu Val Asp Val Glu Glu
                485                    490                    495
Leu Asn Tyr Trp Ala Cys Lys Gly Glu Gly Glu Ile Cys Val Arg Gly
                500                    505                    510
Pro Asn Val Phe Lys Gly Tyr Leu Lys Asp Pro Asp Arg Thr Lys Glu
            515                    520                    525
Ala Leu Asp Ser Asp Gly Trp Leu His Thr Gly Asp Ile Gly Lys Trp
        530                    535                    540
Leu Pro Ala Gly Thr Leu Lys Ile Ile Asp Arg Lys Lys His Ile Phe
545                    550                    555                    560
Lys Leu Ala Gln Gly Glu Tyr Val Ala Pro Glu Lys Ile Glu Asn Ile
                565                    570                    575
Tyr Ile Arg Ser Gln Pro Val Ala Gln Ile Tyr Val His Gly Asp Ser
            580                    585                    590
Leu Lys Ala Phe Leu Val Gly Ile Val Val Pro Asp Pro Glu Val Met
            595                    600                    605
Pro Ser Trp Ala Gln Lys Arg Gly Ile Glu Gly Thr Tyr Ala Asp Leu
        610                    615                    620
Cys Thr Asn Lys Asp Leu Lys Lys Ala Ile Leu Glu Asp Met Val Arg
625                    630                    635                    640
Leu Gly Lys Glu Ser Gly Leu His Ser Phe Glu Gln Val Lys Ala Ile
                645                    650                    655
His Ile His Ser Asp Met Phe Ser Val Gln Asn Gly Leu Leu Thr Pro
            660                    665                    670
Thr Leu Lys Ala Lys Arg Pro Glu Leu Arg Glu Tyr Phe Lys Lys Gln
```

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          675                  680                    685
Ile Glu Glu Leu Tyr Ser Ile Ser Met
          690                  695


<210> 5183
<211> 2466
<212> DNA
<213> Homo sapiens


<400> 5183
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120
agcctgcgct ccgaggaccc ctcagggaag aaggccgtgc tgggttccag tcctttcctg
180
tccgaggcca atgcagagcg gatcgtgcgc acgctctgca aggtgcgtgg tgcggcactc
240
aagctgggcc agatgctgag catccaggat gatgccttta tcaacccccca cctggctaag
300
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360
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420
ttcgccgccg catccattgg gcaggtgcac ttggcccgaa tgaagggcgg ccgcgaggtg
480
gccatgaaga tccagtaccc tggcgtggcc cagagcatca acagtgatgt caacaacctc
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600
gacgtgctga ggcgggagct ggccctggag tgtgactacc agcgagaggc cgcctgtgcc
660
cgcaagttca gggacctgct gaagggccac cccttcttct atgtgcctga gattgtggat
720
gagctctgca gcccacatgt gctgaccaca gagctggtgt ctggcttccc cctggaccag
780
gccgaagggc tcagccagga gattcggaac gagatctgct acaacatcct ggttctgtgc
840
ctgagggagc tgtttgagtt ccacttcatg caaacagacc ccaactggtc caacttcttc
900
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960
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1020
actgtgcggg cgaaatccat agagatgaag ttcctcaccg gctacgaggt caaggtcatg
1080
gaagacgccc acttggatgc catcctcatc ctggggaggg ccttcgcctc cgatgagcct
1140
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1200
aggcaccgtc tcgtcccccc acccgaggaa acctactccc tgcacaggaa gatggggggc
1260
tccttcctca tctgctccaa gctgaaggcc cgcttcccct gcaaggccat gttcgaggag
1320
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gcctacagca actactgcaa gaggcaggcc cagcagtagg gctgcgggcc acgcccaggc
1380
cggctccgcg ggaactctct ccctcagaca ggccaaaaac cagtagcgag gtcgtggtga
1440
tgctcttttt aactcctttg cccaataagg ggggtggctg cctggagccc cgtagccagc
1500
gctttccacg gtttctgttg ctaaatggtt gtagggtgag aagtgcaaga atgaagatga
1560
agccccactg ctcggtcagt ctgcctccgt gtgtcctctg aaataagcag atgaagatga
1620
aagggcaact ttgtttttctt ctttttcctg atgtgaatgt taagcagaag ggagagagtc
1680
cttactccct tccaatctct gttcagtgca aaacccagaa acatgaacag atacgattgt
1740
gggattttta tcatctgtgt agtaggtgtg tgtatgtgtt tctagagtga gatttgtgtt
1800
ttctgccctt ttcctctcca gccgatgggc tggagctggg agaggtgctg agctaacagt
1860
gccaacaagt gctccttaag cctgcgaggc ccaggcctgt ggggctggtt ctcacctttg
1920
acagctgaat gttcctaaag aactgctgcc ccacagtgag ggtgggagca gcggaacagg
1980
gaatgccaga cacaggctcg ctgctgctgg aaggcggggt gggacttcct tcctctgtcc
2040
ggagaggcac aggtgtcacc agttccagcc aaaggctcct cacaggcgct gtgaattttt
2100
gtacaagtct tgtaattatc gaatcaacaa cttgtttcaa tttaataaaa atgctcatgg
2160
gaaggcgggc gcggaggcgg ctagaaggtg accgcggatc ccagcttcct gcagtcagcc
2220
ctgaaggatg gctgccatat tgggagacac catcatggtg gctaaaggcc ttgtcaagct
2280
gacccctgcg ctccgaggac ccctcaggga agaaggccgt gctgggttcc agtcctttcc
2340
tgtccgaggc caatgcagag cggatcgtgc gcacgctctg caaggtgcgt ggtgcggcac
2400
tcaagctggg ccagatgctg agcatccagg atgatgcctt tatcaacccc cacctggcta
2460
agatct
2466
```

```
<210> 5184
<211> 395
<212> PRT
<213> Homo sapiens
```

```
<400> 5184
Pro Phe Leu Ser Glu Ala Asn Ala Glu Arg Ile Val Arg Thr Leu Cys
1               5                   10                  15
Lys Val Arg Gly Ala Ala Leu Lys Leu Gly Gln Met Leu Ser Ile Gln
            20                  25                  30
Asp Asp Ala Phe Ile Asn Pro His Leu Ala Lys Ile Phe Glu Arg Val
        35                  40                  45
Arg Gln Ser Ala Asp Phe Met Pro Leu Lys Gln Met Met Lys Thr Leu
```

```
      50                        55                        60
Asn Asn Asp Leu Gly Pro Asn Trp Arg Asp Lys Leu Glu Tyr Phe Glu
65                        70                        75                        80
Glu Arg Pro Phe Ala Ala Ala Ser Ile Gly Gln Val His Leu Ala Arg
                    85                        90                        95
Met Lys Gly Gly Arg Glu Val Ala Met Lys Ile Gln Tyr Pro Gly Val
            100                       105                       110
Ala Gln Ser Ile Asn Ser Asp Val Asn Asn Leu Met Ala Val Leu Asn
        115                       120                       125
Met Ser Asn Met Leu Pro Glu Gly Leu Phe Pro Glu His Leu Ile Asp
        130                       135                       140
Val Leu Arg Arg Glu Leu Ala Leu Glu Cys Asp Tyr Gln Arg Glu Ala
145                       150                       155                       160
Ala Cys Ala Arg Lys Phe Arg Asp Leu Leu Lys Gly His Pro Phe Phe
                165                       170                       175
Tyr Val Pro Glu Ile Val Asp Glu Leu Cys Ser Pro His Val Leu Thr
            180                       185                       190
Thr Glu Leu Val Ser Gly Phe Pro Leu Asp Gln Ala Glu Gly Leu Ser
            195                       200                       205
Gln Glu Ile Arg Asn Glu Ile Cys Tyr Asn Ile Leu Val Leu Cys Leu
        210                       215                       220
Arg Glu Leu Phe Glu Phe His Phe Met Gln Thr Asp Pro Asn Trp Ser
225                       230                       235                       240
Asn Phe Phe Tyr Asp Pro Gln Gln His Lys Val Ala Leu Leu Asp Phe
                245                       250                       255
Gly Ala Thr Arg Glu Tyr Asp Arg Ser Phe Thr Asp Leu Tyr Ile Gln
            260                       265                       270
Ile Ile Arg Ala Ala Ala Asp Arg Asp Arg Glu Thr Val Arg Ala Lys
        275                       280                       285
Ser Ile Glu Met Lys Phe Leu Thr Gly Tyr Glu Val Lys Val Met Glu
        290                       295                       300
Asp Ala His Leu Asp Ala Ile Leu Ile Leu Gly Glu Ala Phe Ala Ser
305                       310                       315                       320
Asp Glu Pro Phe Asp Phe Gly Thr Gln Ser Thr Thr Glu Lys Ile His
                325                       330                       335
Asn Leu Ile Pro Val Met Leu Arg His Arg Leu Val Pro Pro Pro Glu
            340                       345                       350
Glu Thr Tyr Ser Leu His Arg Lys Met Gly Gly Ser Phe Leu Ile Cys
            355                       360                       365
Ser Lys Leu Lys Ala Arg Phe Pro Cys Lys Ala Met Phe Glu Glu Ala
        370                       375                       380
Tyr Ser Asn Tyr Cys Lys Arg Gln Ala Gln Gln
385                       390                       395
```

```
<210> 5185
<211> 1657
<212> DNA
<213> Homo sapiens

<400> 5185
gtgcactcac agaatctgct gcttcccagg tcttttggat gtgaaatgaa accccaagga
60
ctgctttaac aaggggcaaa aacacatgca accaaagcca gcagttatgc cgaagcatcc
120
```

```
cggattccca tgagaaactc tctggatcta gttcctctac gtcacatgag tgtgcaaaca
180
ggagactaca agagtttaaa aatactggga ctgctggaga tttccctggc catatatagt
240
tcacttgttt cacagatctc actctgtcac ccaggctgga gtacagtggt gcgatctcaa
300
cttactgcaa cctccgcctc ccggttcaag cgattcgcct gcctctgcct tagctatgtc
360
cctttcagaa aaattctact tcaagagaag atttggtttc aggatgtctc ctggactgga
420
gggcatgtac ctagagtccc acgaactggc tgggtataca gaaatgtcca gaggccggag
480
agcgtttcag atcacatgta ccggatggca gttatggcta tggtgatcaa agatgaccgt
540
cttaacaaag acncggaagc tatgaagcag ataacccagc tcctaccaga ggacctcaga
600
aaggagctct atgaactttg ggaagagtac gagacccaat ctagtgcaga agccaaattt
660
gtgaagcagc tagaccaatg tgaaatgatt cttcaagcat ctgaatatga agaccttgaa
720
cacaaacctg ggagactgca agacttctat gattccacag caggaaaatt caatcaccct
780
gagatagtcc agcttgtttc tgaacttgag gcagaaagaa gcactaacat agctgcagct
840
gccagtgagc cacactcctg agacactctc taaattgctg cactcctgta acaaacatta
900
ttttttccatt tcattgtatt gtgtttgcc attgttggtc tgttgatttc cctagatgtg
960
agtctgtttg ttttcaattg tctgaacttc agcaagaaat gtgatacaac ttgggcacta
1020
aaagaagcca cagaacagga agcggtcatg aaagtgccat ggatgaacac tggaggtggc
1080
agtgcctgtt tatgaactaa ataaataaat attaaacacc taaaatatta gaatatttat
1140
tggagattta aaatcatctt attctgactt aattaccgat atccccgaag gctaggttca
1200
ttgaataata gaaaatttca ttatgattgc ttttaagaac agattcttca gctgatttag
1260
tgataagaat ccagaaaaga aaatgtacta gtgatgtatt ctctccccag atgaaattgc
1320
tgccttattc agatttactc tcttgagcca gattttgaat ttcactgcag actgcttcag
1380
acttctaatc ataggcttgt aaacctacta ataggctctg cccctcttcc caatactttt
1440
tgtcatttag agatataaac cggggcatat aaaaatgcaa cttgtattcc tttgtatatt
1500
tttccctgtc tgacttataa atcttgagac ctttattgta aaagcattta tcatcaggtg
1560
agaaatataa ataggaactg gggtcattga gcctcaggta gggaatatat caacccgatt
1620
tcttcctctc ttttcccttt tataggataa ataatcc
1657
```

    <210> 5186

```
<211> 243
<212> PRT
<213> Homo sapiens

<400> 5186
Met Arg Asn Ser Leu Asp Leu Val Pro Leu Arg His Met Ser Val Gln
 1               5                  10                  15
Thr Gly Asp Tyr Lys Ser Leu Lys Ile Leu Gly Leu Leu Glu Ile Ser
             20                  25                  30
Leu Ala Ile Tyr Ser Ser Leu Val Ser Gln Ile Ser Leu Cys His Pro
         35                  40                  45
Gly Trp Ser Thr Val Val Arg Ser Gln Leu Thr Ala Thr Ser Ala Ser
     50                  55                  60
Arg Phe Lys Arg Phe Ala Cys Leu Cys Leu Ser Tyr Val Pro Phe Arg
65                  70                  75                  80
Lys Ile Leu Leu Gln Glu Lys Ile Trp Phe Gln Asp Val Ser Trp Thr
                 85                  90                  95
Gly Gly His Val Pro Arg Val Pro Arg Thr Gly Trp Val Tyr Arg Asn
                100                 105                 110
Val Gln Arg Pro Glu Ser Val Ser Asp His Met Tyr Arg Met Ala Val
             115                 120                 125
Met Ala Met Val Ile Lys Asp Asp Arg Leu Asn Lys Asp Xaa Glu Ala
         130                 135                 140
Met Lys Gln Ile Thr Gln Leu Leu Pro Glu Asp Leu Arg Lys Glu Leu
145                 150                 155                 160
Tyr Glu Leu Trp Glu Glu Tyr Glu Thr Gln Ser Ser Ala Glu Ala Lys
                165                 170                 175
Phe Val Lys Gln Leu Asp Gln Cys Glu Met Ile Leu Gln Ala Ser Glu
             180                 185                 190
Tyr Glu Asp Leu Glu His Lys Pro Gly Arg Leu Gln Asp Phe Tyr Asp
         195                 200                 205
Ser Thr Ala Gly Lys Phe Asn His Pro Glu Ile Val Gln Leu Val Ser
     210                 215                 220
Glu Leu Glu Ala Glu Arg Ser Thr Asn Ile Ala Ala Ala Ala Ser Glu
225                 230                 235                 240
Pro His Ser


<210> 5187
<211> 1712
<212> DNA
<213> Homo sapiens

<400> 5187
nttttgtctt gtcggctcct gtgtgtagga gggatttcgg cctgagagcg ggccgaggag
60
attggcgacg gtgtcgcccg tgttttcgtt ggcgggtgcc tgggctggtg ggaacagccg
120
cccgaaggaa gcaccatgat ttcggccgcg cagttgttgg atgagttaat gggccgggac
180
cgaaacctag ccccggacga gaagcgcagc aacgtgcggt gggaccacga gagcgtttgt
240
aaatattatc tctgtggttt ttgtcctgcg gaattgttca caaatacacg ttctgatctt
300
```

```
ggtccgtgtg aaaaaattca tgatgaaaat ctacgaaaac agtatgagaa gagctctcgt
360
ttcatgaaag ttggctatga gagagatttt ttgcgatact tacagagctt acttgcagaa
420
gtagaacgta ggatcagacg aggccatgct cgtttggcat tatctcaaaa ccagcagtct
480
tctggggccg ctggcccaac aggcaaaaat gaagaaaaaa ttcaggttct aacagacaaa
540
attgatgtac ttctgcaaca gattgaagaa ttagggtctg aaggaaaagt agaagaagcc
600
caggggatga tgaaattagt tgagcaatta aaagaagaga gagaactgct aaggtccaca
660
acgtcgacaa ttgaaagctt tgctgcacaa gaaaaacaaa tggaagtttg tgaagtatgt
720
ggagcctttt taatagtagg agatgcccag tcccgggtag atgaccattt gatgggaaaa
780
caacacatgg gctatgccaa aattaaagct actgtagaag aattaaaaga aaagttaagg
840
aaaagaaccg aagaacctga tcgtgatgag cgtctaaaaa aggagaagca agaaagagaa
900
gaaagagaaa aagaacggga gagagaaagg gaagaaagag aaaggaaaag acgaagggaa
960
gaggaagaaa gagaaaaaga aagggctcgt gacagagaaa gaagaaagag aagtcgttca
1020
cgaagtagac actcaagccg aacatcagac agaagatgca gcaggtctcg ggaccacaaa
1080
aggtcacgaa gtagagaaag aaggcggagc agaagtagag atcgacgaag aagcagaagc
1140
catgatcgat cagaaagaaa acacagatct cgaagtcggg atcgaagaag atcaaaaagc
1200
cgggatcgaa agtcatataa gcacaggagc aaaagtcggg acagagaaca agatagaaaa
1260
tccaaggaga aagaaagag gggatctgat gataaaaaaa gtagtgtgaa gtccggtagt
1320
cgagaaaagc agagtgaaga cacaaacact gaatcgaagg aaagtgatac taagaatgag
1380
gtcaatggga ccagtgaaga cattaaatct gaagtgcagc gtaagtatgc acagatgaag
1440
atggaactaa gccgagtaag aagacataca aaagcctctt ctgaaggaaa agacagtgta
1500
gtcctgcaaa acattttgag gtacattgtt ttgtctcagc tattttgtag cagactcgtg
1560
cccccattag tgtgcctctt tggaaattat cgcccacatt tgtaatatag tcgccattga
1620
aaagttaatt atcctttttt tagggatttt gatgtcgttt cttttttttt ttaatacaaa
1680
ggttgaactg tttttttttt ccttttttgg tt
1712

<210> 5188
<211> 489
<212> PRT
<213> Homo sapiens
```

```
<400> 5188
Met Ile Ser Ala Ala Gln Leu Leu Asp Glu Leu Met Gly Arg Asp Arg
1               5                   10                  15
Asn Leu Ala Pro Asp Glu Lys Arg Ser Asn Val Arg Trp Asp His Glu
            20                  25                  30
Ser Val Cys Lys Tyr Tyr Leu Cys Gly Phe Cys Pro Ala Glu Leu Phe
        35                  40                  45
Thr Asn Thr Arg Ser Asp Leu Gly Pro Cys Glu Lys Ile His Asp Glu
    50                  55                  60
Asn Leu Arg Lys Gln Tyr Glu Lys Ser Ser Arg Phe Met Lys Val Gly
65                  70                  75                  80
Tyr Glu Arg Asp Phe Leu Arg Tyr Leu Gln Ser Leu Leu Ala Glu Val
                85                  90                  95
Glu Arg Arg Ile Arg Arg Gly His Ala Arg Leu Ala Leu Ser Gln Asn
            100                 105                 110
Gln Gln Ser Ser Gly Ala Ala Gly Pro Thr Gly Lys Asn Glu Glu Lys
        115                 120                 125
Ile Gln Val Leu Thr Asp Lys Ile Asp Val Leu Leu Gln Gln Ile Glu
    130                 135                 140
Glu Leu Gly Ser Glu Gly Lys Val Glu Glu Ala Gln Gly Met Met Lys
145                 150                 155                 160
Leu Val Glu Gln Leu Lys Glu Glu Arg Glu Leu Leu Arg Ser Thr Thr
                165                 170                 175
Ser Thr Ile Glu Ser Phe Ala Ala Gln Glu Lys Gln Met Glu Val Cys
            180                 185                 190
Glu Val Cys Gly Ala Phe Leu Ile Val Gly Asp Ala Gln Ser Arg Val
        195                 200                 205
Asp Asp His Leu Met Gly Lys Gln His Met Gly Tyr Ala Lys Ile Lys
    210                 215                 220
Ala Thr Val Glu Glu Leu Lys Glu Lys Leu Arg Lys Arg Thr Glu Glu
225                 230                 235                 240
Pro Asp Arg Asp Glu Arg Leu Lys Lys Glu Lys Gln Glu Arg Glu Glu
                245                 250                 255
Arg Glu Lys Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Lys Arg
            260                 265                 270
Arg Arg Glu Glu Glu Glu Arg Glu Lys Glu Arg Ala Arg Asp Arg Glu
        275                 280                 285
Arg Arg Lys Arg Ser Arg Ser Arg Ser Arg His Ser Ser Arg Thr Ser
    290                 295                 300
Asp Arg Arg Cys Ser Arg Ser Arg Asp His Lys Arg Ser Arg Ser Arg
305                 310                 315                 320
Glu Arg Arg Arg Ser Arg Ser Arg Asp Arg Arg Ser Arg Ser His
                325                 330                 335
Asp Arg Ser Glu Arg Lys His Arg Ser Arg Ser Arg Asp Arg Arg Arg
            340                 345                 350
Ser Lys Ser Arg Asp Arg Lys Ser Tyr Lys His Arg Ser Lys Ser Arg
        355                 360                 365
Asp Arg Glu Gln Asp Arg Lys Ser Lys Glu Lys Glu Lys Arg Gly Ser
    370                 375                 380
Asp Asp Lys Lys Ser Ser Val Lys Ser Gly Ser Arg Glu Lys Gln Ser
385                 390                 395                 400
Glu Asp Thr Asn Thr Glu Ser Lys Glu Ser Asp Thr Lys Asn Glu Val
                405                 410                 415
Asn Gly Thr Ser Glu Asp Ile Lys Ser Glu Val Gln Arg Lys Tyr Ala
```

```
                    420                 425                    430
Gln Met Lys Met Glu Leu Ser Arg Val Arg Arg His Thr Lys Ala Ser
            435                 440                 445
Ser Glu Gly Lys Asp Ser Val Val Leu Gln Asn Ile Leu Arg Tyr Ile
    450                 455                 460
Val Leu Ser Gln Leu Phe Cys Ser Arg Leu Val Pro Pro Leu Val Cys
465                 470                 475                 480
Leu Phe Gly Asn Tyr Arg Pro His Leu
                485
```

```
<210> 5189
<211> 323
<212> DNA
<213> Homo sapiens
```

```
<400> 5189
acgcgtgaag ggattacagg catgagccac tgcacctggc caggagaaat tgtttttata
60
acgtatgaca aatgcttgag taattcctgg cttgaaagtg ggctcacaat aaataactgg
120
aatccaaaaa taacaaaatg tttagcaatt caggtaatgt caagcagtat tcaaacacat
180
gaagttaatc attccttaat tcctgtttat ttatatttca tttttgcttt ctttttactc
240
catgtgttat tcctacagaa gtcacaagtt aaatgttttt ggggaacttt ggggggggg
300
gacaaacatc catgtgctgc taa
323
```

```
<210> 5190
<211> 100
<212> PRT
<213> Homo sapiens
```

```
<400> 5190
Met Ser His Cys Thr Trp Pro Gly Glu Ile Val Phe Ile Thr Tyr Asp
  1               5                  10                  15
Lys Cys Leu Ser Asn Ser Trp Leu Glu Ser Gly Leu Thr Ile Asn Asn
                20                  25                  30
Trp Asn Pro Lys Ile Thr Lys Cys Leu Ala Ile Gln Val Met Ser Ser
            35                  40                  45
Ser Ile Gln Thr His Glu Val Asn His Ser Leu Ile Pro Val Tyr Leu
    50                  55                  60
Tyr Phe Ile Phe Ala Phe Phe Leu Leu His Val Leu Phe Leu Gln Lys
65                  70                  75                  80
Ser Gln Val Lys Cys Phe Trp Gly Thr Leu Gly Gly Gly Asp Lys His
                85                  90                  95
Pro Cys Ala Ala
            100
```

```
<210> 5191
<211> 1632
<212> DNA
<213> Homo sapiens
```

<400> 5191

tcccgcattt tagaggtgac tggagaactc tcacgtaggc ggccgcccca atttcccgcc
60
cgggtcatcg gggagcccct tcccaagccc cgcaaacacc tgcatgcaaa gaggcaggct
120
tccttctgac agcagataac atgtcgcctg cggcgtcagc aagaggcgca tgcgccttgc
180
cgtgggaggc cgggtgcgca ggactggaac gcggttcctc cttcttcccc gccccgcccc
240
gcttccggcg gaagcggcct caacaaggga aactttattg ttcccgtggg gcagtcgagg
300
atgtcggtga attacgcggc ggggctgtcg ccgtacgcgg acaagggcaa gtgcggcctc
360
ccggagatct tcgacccccc ggaggagctg gagcggaagg tgtgggaact ggcgaggctg
420
gtctggcagt cttccagtgt ggtgttccac acgggtgccg gcatcagcac tgcctctggc
480
atccccgact tcaggggtcc ccacggagtc tggaccatgg aggagcgagg tctggccccc
540
aagttcgaca ccacctttga gagcgcgcgg cccacgcaga cccacatggc gctggtgcag
600
ctggagcgcg tgggcctcct ccgcttcctg gtcagccaga acgtggacgg gctccatgtg
660
cgctcaggct tccccaggga caaactggca gagctccacg gaacatgtt tgtggaagaa
720
tgtgccaagt gtaagacgca gtacgtccga gacacagtcg tgggcaccat gggcctgaag
780
gccacgggcc ggctctgcac cgtggctaag gcaaggggggc tgcgagcctg caggggaggc
840
tgcgaggccc ctgaggactc tcctcagctt cctcattgca ggggagagct gagggacacc
900
atcctagact gggaggactc cctgcccgac cgggacctgg cactcgccga tgaggccagc
960
aggaacgccg acctgtccat cacgctgggt acatcgctgc agatccggcc cagcgggaac
1020
ctgccgctgg ctaccaagcg ccggggaggc cgcctggtca tcgtcaacct gcagcccacc
1080
aagcacgacc gccatgctga cctccgcatc catggctacg ttgacgaggt catgacccgg
1140
ctcatgaagc acctggggct ggagatcccc gcctgggacg gccccgtgt gctggagagg
1200
gcgctgccac ccctgccccg cccgcccacc cccaagctgg agcccaagga ggaatctccc
1260
acccggatca acggctctat ccccgccggc cccaagcagg agccctgcgc ccagcacaac
1320
ggctcagagc ccgccagccc caaacgggag cggcccacca gccctgcccc ccacagaccc
1380
cccaaaaggg ggcctctggt gcggttccgg gaagaagcca caccccagag gtgacagctg
1440
agccctgcc acaccccagc ctctgacttg ctgtgttgtc cagaggtgag gctgggccct
1500
ccctggtctc cagcttaaac aggagtgaac tccctctgtc cccagggcct cccttctggg
1560

cccctacag cccaccctac ccctcctcca tgggccctgc aggaggggag acccaccttg
1620
aagtggggga tc
1632

<210> 5192
<211> 377
<212> PRT
<213> Homo sapiens

<400> 5192
Met Ser Val Asn Tyr Ala Ala Gly Leu Ser Pro Tyr Ala Asp Lys Gly
1   5   10   15
Lys Cys Gly Leu Pro Glu Ile Phe Asp Pro Pro Glu Glu Leu Glu Arg
            20   25   30
Lys Val Trp Glu Leu Ala Arg Leu Val Trp Gln Ser Ser Ser Val Val
        35   40   45
Phe His Thr Gly Ala Gly Ile Ser Thr Ala Ser Gly Ile Pro Asp Phe
    50   55   60
Arg Gly Pro His Gly Val Trp Thr Met Glu Glu Arg Gly Leu Ala Pro
65   70   75   80
Lys Phe Asp Thr Thr Phe Glu Ser Ala Arg Pro Thr Gln Thr His Met
                85   90   95
Ala Leu Val Gln Leu Glu Arg Val Gly Leu Leu Arg Phe Leu Val Ser
            100   105   110
Gln Asn Val Asp Gly Leu His Val Arg Ser Gly Phe Pro Arg Asp Lys
        115   120   125
Leu Ala Glu Leu His Gly Asn Met Phe Val Glu Glu Cys Ala Lys Cys
    130   135   140
Lys Thr Gln Tyr Val Arg Asp Thr Val Val Gly Thr Met Gly Leu Lys
145   150   155   160
Ala Thr Gly Arg Leu Cys Thr Val Ala Lys Ala Arg Gly Leu Arg Ala
                165   170   175
Cys Arg Gly Gly Cys Glu Ala Pro Glu Asp Ser Pro Gln Leu Pro His
            180   185   190
Cys Arg Gly Glu Leu Arg Asp Thr Ile Leu Asp Trp Glu Asp Ser Leu
            195   200   205
Pro Asp Arg Asp Leu Ala Leu Ala Asp Glu Ala Ser Arg Asn Ala Asp
        210   215   220
Leu Ser Ile Thr Leu Gly Thr Ser Leu Gln Ile Arg Pro Ser Gly Asn
225   230   235   240
Leu Pro Leu Ala Thr Lys Arg Arg Gly Gly Arg Leu Val Ile Val Asn
                245   250   255
Leu Gln Pro Thr Lys His Asp Arg His Ala Asp Leu Arg Ile His Gly
            260   265   270
Tyr Val Asp Glu Val Met Thr Arg Leu Met Lys His Leu Gly Leu Glu
        275   280   285
Ile Pro Ala Trp Asp Gly Pro Arg Val Leu Glu Arg Ala Leu Pro Pro
    290   295   300
Leu Pro Arg Pro Pro Thr Pro Lys Leu Glu Pro Lys Glu Glu Ser Pro
305   310   315   320
Thr Arg Ile Asn Gly Ser Ile Pro Ala Gly Pro Lys Gln Glu Pro Cys
                325   330   335
Ala Gln His Asn Gly Ser Glu Pro Ala Ser Pro Lys Arg Glu Arg Pro

```
                340               345                 350
Thr Ser Pro Ala Pro His Arg Pro Pro Lys Arg Gly Pro Leu Val Arg
        355               360               365
Phe Arg Glu Glu Ala Thr Pro Gln Arg
    370               375
```

<210> 5193
<211> 554
<212> DNA
<213> Homo sapiens

<400> 5193

```
acgcgtccct tcccgaggtt ccaggcggac gtgtcccttc ccgaggttct aggcggacat
60
gtcttttgag agggcctcag gttaacccac tactgtgtct gaatctgtcc cttccccaag
120
cagcagctct gtgtcccggc atggccactg tggggcagag acacagcagg tcccacatct
180
ctgtgccctg cagacccgtc agccctgggg atgctggtct gggacggacc cctagatatc
240
acacagccga gaggtaggtc agcgctttaa gatgctgata ccgctggttc agctcctgga
300
gcagaattct cagggtggat ttccagcaac gcctcctggg agggtcagca ggggctgggg
360
tccgtggggt ggtctccggg aggtttgcct gtgtcaggcc tgtgctgctt ctggcggagg
420
cgcttgtcca gcctcatcca gcctggtgtc tccggtgcca cgcgctaaca ccttcagtgc
480
acgctcggga acgcgcctgg aaggccctgc cctgccccgc cccaggctcc agccagatgc
540
tgccagcacc cggg
554
```

<210> 5194
<211> 94
<212> PRT
<213> Homo sapiens

<400> 5194

```
Met Leu Ile Pro Leu Val Gln Leu Leu Glu Gln Asn Ser Gln Gly Gly
1               5               10                15
Phe Pro Ala Thr Pro Pro Gly Arg Val Ser Arg Gly Trp Gly Pro Trp
            20              25              30
Gly Gly Leu Arg Glu Val Cys Leu Cys Gln Ala Cys Ala Ala Ser Gly
        35              40              45
Gly Gly Ala Cys Pro Ala Ser Ser Ser Leu Val Ser Pro Val Pro Arg
    50              55              60
Ala Asn Thr Phe Ser Ala Arg Ser Gly Thr Arg Leu Glu Gly Pro Ala
65              70              75              80
Leu Pro Arg Pro Arg Leu Gln Pro Asp Ala Ala Ser Thr Arg
            85              90
```

<210> 5195
<211> 964

<212> DNA
<213> Homo sapiens

<400> 5195
gggcccaggc tcacagaggt gtgaaagagg caagcacacc gcaggggcct ctgagcccag
60
ccagcctcgc ttcaatgctg ggaggctgac gtcttccttt ttgtcttctg cccaggccag
120
ctgcgggccg tccagcggct gtgccacttc tacagcgccg tcatgcccag cgaggcccag
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tgtgtcatct accatgagct ccagctctcc ctggcctgca aggtggccga caaggtgctg
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gagggcagc tcctggagac catcagccag ctctacctgt ccctgggcac cgagcgggcc
300
tacaaatccg cactggacta caccaaacga agtctgggga ttttcattga cctccagaag
360
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480
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540
gagcgggaga agctgtgtc cttctaccgg gaccgggccc tgcccctggc agtgactacg
600
ggcaaccgca aggcggagct gcggctgtgc aacaagctgg tggcactgct ggccacgctg
660
gaggagcccc aggagggctt ggagtttgcc cacatggccc tagcactcag catcactctg
720
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780
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840
ctggagtttg acgaggagac cctctactac gtgaaggtgt acctggtgct cggtgacatc
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960
gccg
964

<210> 5196
<211> 267
<212> PRT
<213> Homo sapiens

<400> 5196
Met Pro Ser Glu Ala Gln Cys Val Ile Tyr His Glu Leu Gln Leu Ser
1   5   10   15
Leu Ala Cys Lys Val Ala Asp Lys Val Leu Glu Gly Gln Leu Leu Glu
            20   25   30
Thr Ile Ser Gln Leu Tyr Leu Ser Leu Gly Thr Glu Arg Ala Tyr Lys
        35   40   45
Ser Ala Leu Asp Tyr Thr Lys Arg Ser Leu Gly Ile Phe Ile Asp Leu
    50   55   60
Gln Lys Lys Glu Lys Glu Ala His Ala Trp Leu Gln Ala Gly Lys Ile

4374

```
65                    70                    75                    80
Tyr Tyr Ile Leu Arg Gln Ser Glu Leu Val Asp Leu Tyr Ile Gln Val
                85                    90                    95
Ala Gln Asn Val Ala Leu Tyr Thr Gly Asp Pro Asn Leu Gly Leu Glu
            100                   105                   110
Leu Phe Glu Ala Ala Gly Asp Ile Phe Phe Asp Gly Ala Trp Glu Arg
        115                   120                   125
Glu Lys Ala Val Ser Phe Tyr Arg Asp Arg Ala Leu Pro Leu Ala Val
    130                   135                   140
Thr Thr Gly Asn Arg Lys Ala Glu Leu Arg Leu Cys Asn Lys Leu Val
145                   150                   155                   160
Ala Leu Leu Ala Thr Leu Glu Glu Pro Gln Glu Gly Leu Glu Phe Ala
                165                   170                   175
His Met Ala Leu Ala Leu Ser Ile Thr Leu Gly Asp Arg Leu Asn Glu
            180                   185                   190
Arg Val Ala Tyr His Arg Leu Ala Ala Leu Gln His Arg Leu Gly His
        195                   200                   205
Gly Glu Leu Ala Glu His Phe Tyr Leu Lys Ala Leu Ser Leu Cys Asn
    210                   215                   220
Ser Pro Leu Glu Phe Asp Glu Glu Thr Leu Tyr Tyr Val Lys Val Tyr
225                   230                   235                   240
Leu Val Leu Gly Asp Ile Ile Phe Tyr Asp Leu Lys Asp Pro Phe Asp
                245                   250                   255
Ala Ala Gly Tyr Tyr Gln Leu Ala Leu Ala Ala
            260                   265
```

```
<210> 5197
<211> 1045
<212> DNA
<213> Homo sapiens

<400> 5197
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aagtgctggg attacaggcg tgagccacca tgttggtcag tctggtctca nactcctgtc
120
ctcatgatcc gcccacctca gcctcgcaaa gtgctgggat tacaggcatg agccaccacg
180
tccggccacc actgactttt tcattctttc tcattcttcc tgggccctcc tgctgttgta
240
ggcccccatg aagaagtgga ctattctgag aaactgaagt tcagtgatga tgaagaggag
300
gaagaagttg tgaaggacgg caggccaaag tggaacagtt gggaccctag gaggcagcgg
360
cagttgtcaa tgagctctgc agacagtgcg gacgctaagc ggactcgaga ggaagggaag
420
gactgggctg aagcagtggg tgcgtcccgt gtggtccgaa aggcgccaga ccctcagcca
480
ccgcccagga agcttcatgg ctgggcacca ggccctgact accagaagtc atcaatgggc
540
agcatgttcc ggcaacagtc catcgaggac aaggaggaca agcccccacc aaggcagaag
600
ttcattcagt cagagatgtc cgaggcggtg gagcgagccc gaaagcgccg ggaagaagag
660
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```
gagcgccgag cccgggagga gaggctggcc gcctgtgctg ccaaactcaa gcagctggac
720
cagaagtgta agcaggcacg aaaggcaggt gaggcccgga agcaggcaga gaaggaagtg
780
ccctggtctc caagtgctga gaaggcatct ccccaggaaa acggccctgc tgtccacaaa
840
ggctccccag aattccctgc ccaagagacc cccaccacat tcccagaaga ggcacccaca
900
gtgtccccag cagtggcaca gagcaacagc agtgaggaag aggccagaga ggctgggtcc
960
cctgcacagg agttcaagta tcagaagtcc cttcctcccc gattccagcg ccagcagcag
1020
caacaacagc aggagcagct gtaca
1045
```

<210> 5198
<211> 283
<212> PRT
<213> Homo sapiens

<400> 5198
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Leu Phe His Ser Phe Ser Phe Phe Leu Gly Pro Pro Ala Val Val Gly
1               5               10              15
Pro His Glu Glu Val Asp Tyr Ser Glu Lys Leu Lys Phe Ser Asp Asp
            20              25              30
Glu Glu Glu Glu Glu Val Val Lys Asp Gly Arg Pro Lys Trp Asn Ser
        35              40              45
Trp Asp Pro Arg Arg Gln Arg Gln Leu Ser Met Ser Ser Ala Asp Ser
    50              55              60
Ala Asp Ala Lys Arg Thr Arg Glu Glu Gly Lys Asp Trp Ala Glu Ala
65              70              75              80
Val Gly Ala Ser Arg Val Val Arg Lys Ala Pro Asp Pro Gln Pro Pro
            85              90              95
Pro Arg Lys Leu His Gly Trp Ala Pro Gly Pro Asp Tyr Gln Lys Ser
        100             105             110
Ser Met Gly Ser Met Phe Arg Gln Gln Ser Ile Glu Asp Lys Glu Asp
        115             120             125
Lys Pro Pro Pro Arg Gln Lys Phe Ile Gln Ser Glu Met Ser Glu Ala
    130             135             140
Val Glu Arg Ala Arg Lys Arg Arg Glu Glu Glu Glu Arg Arg Ala Arg
145             150             155             160
Glu Glu Arg Leu Ala Ala Cys Ala Ala Lys Leu Lys Gln Leu Asp Gln
            165             170             175
Lys Cys Lys Gln Ala Arg Lys Ala Gly Glu Ala Arg Lys Gln Ala Glu
        180             185             190
Lys Glu Val Pro Trp Ser Pro Ser Ala Glu Lys Ala Ser Pro Gln Glu
        195             200             205
Asn Gly Pro Ala Val His Lys Gly Ser Pro Glu Phe Pro Ala Gln Glu
    210             215             220
Thr Pro Thr Thr Phe Pro Glu Glu Ala Pro Thr Val Ser Pro Ala Val
225             230             235             240
Ala Gln Ser Asn Ser Ser Glu Glu Glu Ala Arg Glu Ala Gly Ser Pro
            245             250             255
Ala Gln Glu Phe Lys Tyr Gln Lys Ser Leu Pro Pro Arg Phe Gln Arg
```

4376

```
              260                265                    270
Gln Gln Gln Gln Gln Gln Gln Glu Gln Leu Tyr
         275                280
```

```
<210> 5199
<211> 1332
<212> DNA
<213> Homo sapiens
```

```
<400> 5199
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cagtgcagcc gaggcagagc ctttgaagga tgcgatgttg tcattcttac taatctagtc
120
cagccgctga ggtgactttc aacggcagac cgtctcctga gcgccccagg tagaatttca
180
aaagtctccg ggaccattat ggcagtcaag tggacgggtg ggcattcttc tcctgtcctc
240
tgcctgaatg caagtaaaga agggctgctg gcttctggag cagagggcgg agatctcacg
300
gcttggggtg aagatggaac tccattagga cacacgcggt tccaaggggc tgatgatgtt
360
accagtgtct tattttctcc ctcctgtccc accaagctct atgcctcaca tggagaaacc
420
attagtgtac tggatgtcag gtccctcaaa gattccttgg accattttca tgtgaatgaa
480
gaagaaatca attgtctttc attgaatcaa acggaaaacc tgctggcttc tgctgacgac
540
tctgggggcaa tcaaaatcct agacttggaa aacaagaaag ttatcagatc cttgaagaga
600
cattccaata tctgctcctc agtggctttt cggcctcaga ggcctcagag cctggtgtca
660
tgtggactgg atatgcaggt gatgctgtgg agtcttcaaa aagcccgacc actctggatt
720
acaaatttac aggaggatga aacagaagaa atggaaggcc cacagtcacc tggtcagctc
780
ttaaaccctg ccctagccca ttctatctct gtggcttcgt gtggtaatat ttttagttgt
840
ggtgcagaag atggtaaggt tcgaatcttt cgggtgatgg gagttaagtg tgaacaggaa
900
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960
ttgctgctta ctggagggaa tgatgggaag atcacgttgt gggatgcaaa cagtgaagtt
1020
gagaaaaaac agaagagtcc cacaaaacgt acccacagga agaaacctaa aagaggaact
1080
tgcaccaagc agggtggaaa tactaacgct tcagtaacag atgaggaaga acatggcaac
1140
attttaccga agctaaatat tgaacatgga gaaaaagtga actggctctt gggtacaaaa
1200
ataaagggac accaaaatat attagtagct gatcaaacta gttgtatatc tgtatacccc
1260
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1320
```

```
attaaaaaaa aa
1332

<210> 5200
<211> 358
<212> PRT
<213> Homo sapiens

<400> 5200
Met Ala Val Lys Trp Thr Gly Gly His Ser Ser Pro Val Leu Cys Leu
1               5                   10                  15
Asn Ala Ser Lys Glu Gly Leu Leu Ala Ser Gly Ala Glu Gly Gly Asp
            20                  25                  30
Leu Thr Ala Trp Gly Glu Asp Gly Thr Pro Leu Gly His Thr Arg Phe
        35                  40                  45
Gln Gly Ala Asp Asp Val Thr Ser Val Leu Phe Ser Pro Ser Cys Pro
    50                  55                  60
Thr Lys Leu Tyr Ala Ser His Gly Glu Thr Ile Ser Val Leu Asp Val
65                  70                  75                  80
Arg Ser Leu Lys Asp Ser Leu Asp His Phe His Val Asn Glu Glu Glu
            85                  90                  95
Ile Asn Cys Leu Ser Leu Asn Gln Thr Glu Asn Leu Leu Ala Ser Ala
            100                 105                 110
Asp Asp Ser Gly Ala Ile Lys Ile Leu Asp Leu Glu Asn Lys Lys Val
        115                 120                 125
Ile Arg Ser Leu Lys Arg His Ser Asn Ile Cys Ser Ser Val Ala Phe
    130                 135                 140
Arg Pro Gln Arg Pro Gln Ser Leu Val Ser Cys Gly Leu Asp Met Gln
145                 150                 155                 160
Val Met Leu Trp Ser Leu Gln Lys Ala Arg Pro Leu Trp Ile Thr Asn
            165                 170                 175
Leu Gln Glu Asp Glu Thr Glu Glu Met Glu Gly Pro Gln Ser Pro Gly
            180                 185                 190
Gln Leu Leu Asn Pro Ala Leu Ala His Ser Ile Ser Val Ala Ser Cys
            195                 200                 205
Gly Asn Ile Phe Ser Cys Gly Ala Glu Asp Gly Lys Val Arg Ile Phe
    210                 215                 220
Arg Val Met Gly Val Lys Cys Glu Gln Glu Leu Gly Phe Lys Gly His
225                 230                 235                 240
Thr Ser Gly Val Ser Gln Val Cys Phe Leu Pro Glu Ser Tyr Leu Leu
            245                 250                 255
Leu Thr Gly Gly Asn Asp Gly Lys Ile Thr Leu Trp Asp Ala Asn Ser
        260                 265                 270
Glu Val Glu Lys Lys Gln Lys Ser Pro Thr Lys Arg Thr His Arg Lys
    275                 280                 285
Lys Pro Lys Arg Gly Thr Cys Thr Lys Gln Gly Gly Asn Thr Asn Ala
    290                 295                 300
Ser Val Thr Asp Glu Glu Glu His Gly Asn Ile Leu Pro Lys Leu Asn
305                 310                 315                 320
Ile Glu His Gly Glu Lys Val Asn Trp Leu Leu Gly Thr Lys Ile Lys
            325                 330                 335
Gly His Gln Asn Ile Leu Val Ala Asp Gln Thr Ser Cys Ile Ser Val
            340                 345                 350
Tyr Pro Leu Asn Glu Phe
```

355

<210> 5201
<211> 6104
<212> DNA
<213> Homo sapiens

<400> 5201
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120
tctcgggggt gttccctgtg ggagggtgag tgggtgaggc cgagcctgct gcgtgtggag
180
cctcgagtgg gccctggctg ccactaccgc acagaggccg tgtcgcgctg ggctgggctt
240
gggtggcctc tgtctttgca tctctgagaa ggagtcgggt ggtaacggtt ggggtcagga
300
agaattctgc caagtatctt tactgtcatt ctgaccatag cctctttgtt cccgcattcg
360
aacttttggt tcttactttg ctgctcgttt agtccctggg gatttcagat cttaggctgt
420
tgtttcaccg tatgggaggg ttgatgtgag cttgcttgga gacacacggt gcagcatcag
480
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540
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600
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660
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720
cacgtgctgc ccgtgacagc acattgagcc acagcatttg tagacaggac agaggggtgc
780
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1080
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1260
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1320
aagactcgct tgccaggagt gcgttctttg ttgaaaaatg ccctgaagcg aaaagatgca
1380

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ggtttatatg gaaccccccac cccctccccc actctcccac tctgttcgtt ctgaatgtct
1440
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1500
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cactggtccc tacagggcgc cgccacacca gcaggaagga ggatggctgt gtccggagcc
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tggcggggag gcggcctccc cagtatgtga gtgcagggat ctgccagaac cacctggccc
1680
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1860
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1920
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3000
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agagcccaca gtaggtgcag ggtgcaaggc cctgggaggg cactggccag ggaaggtggt
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4620
```

4381

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4740
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4860
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6104
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<210> 5202
<211> 108
<212> PRT
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<213> Homo sapiens

<400> 5202

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Ser Pro Gly Pro Arg Gly Leu Pro Glu Gly Pro Gln Ala Leu Gly Arg
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Val Ala Val Gly Gly Gln Val His Cys Pro Glu Val Leu Ser Ala Leu
             20                  25                  30
Ser Gln Gly Ser Leu Glu Arg Gly Leu Ala Gly Leu Gly Gly His Arg
         35                  40                  45
Pro His Ser Gly Leu Pro Ala Gln Gly Arg Arg Pro Glu Pro Val Trp
     50                  55                  60
Pro Cys Ser Pro Gly Gln Ser Trp Ala Cys Arg Val Phe Leu Pro Gly
65                  70                  75                  80
Arg Cys Arg Cys Trp Pro Ser Ala Gly Gly Arg Arg Trp Glu Ser Trp
                 85                  90                  95
Ile Phe Cys Phe Phe Leu Ser Phe Phe Phe Leu Arg
             100                 105
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<210> 5203
<211> 1863
<212> DNA
<213> Homo sapiens

<400> 5203

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gaaaatttgg tagaaaaaga gataagtgga tctaaagtca cttgtagaga tcttgtagaa
60
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120
cttcaggcaa cagctgaagc taataatctt gctgcagtag caggagcaag agatacctat
180
tgtaaaagta tggaacaggt atgtggaggg gacaagcctt acattgcacc ttcagatctg
240
gagcgaaaac acttggatct caaggaagtg gcgataaaac aatttcgttc agtaaaaaag
300
atgggtggag atgagttctg ccgtcgttat caggaccagc ttgaagctga aattgaagaa
360
acctatgcaa attttataaa gcacaatgat ggcaaaaata tcttctatgc tgctcgtacc
420
ccagccacac tgtttgcggt catgtttgct atgtatataa tctcaggact gactggcttc
480
attggcctaa actctatagc tgtcttgtgt aaccttgtca tggggttagc actgatattt
540
ctttgtactt gggcatatgt taaatactct ggggagttca gagaaattgg aacagtgatt
600
gatcagattg ctgaaacact atgggaacag gtattgaagc ccctgggtga taatttgatg
660
gaggaaaaca taaggcagtc tgtaacaaac tctatcaaag caggcctgac tgaccaggtg
720
tctcatcatg ccagattaaa gacagactga cagttcatct cctcacggac tccactctct
780
ttttttttca tgcttgctgt acaatgagaa ctcaaataaa aataaaccaa agtttacaat
840
caactgtaga agtagtttag tgtaactggc ttcacagatg gctgccacag agtgtgaaga
900
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ttgtttgtta gttttaagca ttcttttaat ggctcctaag acatgcagat ggactgagga
960
gcattggtta atcatgcacc tttgtgccat gtttaactct tttattttt tttacttaat
1020
ctaatgttag tgaatttgtc ttatgtaaaa ggatatttca gggaaatatt ttcagaaatc
1080
tatttagagt ctctttaaca cagtgtccca ttgaaatttt aatttttaga gaatttatga
1140
atcactgttt caagaaccag attggaaaga caatgaagcc tttattgagc cactacatta
1200
aaagtatata ttgctttact gccttcaata ccagtattac atcaatgcat gtatcagaaa
1260
cttcacagaa attacatggc aactcttgta gctaagaaag taattctgag gtgtacattt
1320
gtcttgcctt tttaaattta taaacttgcc ctaaaaggag atgcatatct gggaaactga
1380
actgtctttt tgcagtttag ccttcatgta tataaaatat gccattaatt ttattgggga
1440
agaaattcca tccaaaaatg ttgcctacag ctatgagtta agagtgtctg tacagtgtgt
1500
agcttttatt ttctaaaatc acagataggg catgtatatg acttataaat atataaatac
1560
gattttgtat taaaagtttt gtagtttatg gcaaaatctg gtcctgtggt aggctaaata
1620
agtacagtcc ctgtgaaagg aatgtttgtg gctcatgtca gtgtgtgaat gcatagacaa
1680
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1740
ccccaccaag ggaattcaat gggaatgttt attgtgactt tgtcctctgt tgcatttttaa
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agttatttcc tgtaatttat tttcagtaca taattaaaaa tttgttgtat atataaaaaa
1860
aaa
1863


<210> 5204
<211> 249
<212> PRT
<213> Homo sapiens


<400> 5204
Glu Asn Leu Val Glu Lys Glu Ile Ser Gly Ser Lys Val Thr Cys Arg
 1               5                  10                  15
Asp Leu Val Glu Tyr Phe Lys Ala Tyr Ile Lys Ile Tyr Gln Gly Glu
            20                  25                  30
Glu Leu Pro His Pro Lys Ser Met Leu Gln Ala Thr Ala Glu Ala Asn
        35                  40                  45
Asn Leu Ala Ala Val Ala Gly Ala Arg Asp Thr Tyr Cys Lys Ser Met
    50                  55                  60
Glu Gln Val Cys Gly Gly Asp Lys Pro Tyr Ile Ala Pro Ser Asp Leu
65                  70                  75                  80
Glu Arg Lys His Leu Asp Leu Lys Glu Val Ala Ile Lys Gln Phe Arg
                85                  90                  95
Ser Val Lys Lys Met Gly Gly Asp Glu Phe Cys Arg Arg Tyr Gln Asp
```

```
              100                   105                   110
Gln Leu Glu Ala Glu Ile Glu Glu Thr Tyr Ala Asn Phe Ile Lys His
          115                   120                   125
Asn Asp Gly Lys Asn Ile Phe Tyr Ala Ala Arg Thr Pro Ala Thr Leu
      130                   135                   140
Phe Ala Val Met Phe Ala Met Tyr Ile Ile Ser Gly Leu Thr Gly Phe
145                   150                   155                   160
Ile Gly Leu Asn Ser Ile Ala Val Leu Cys Asn Leu Val Met Gly Leu
                  165                   170                   175
Ala Leu Ile Phe Leu Cys Thr Trp Ala Tyr Val Lys Tyr Ser Gly Glu
              180                   185                   190
Phe Arg Glu Ile Gly Thr Val Ile Asp Gln Ile Ala Glu Thr Leu Trp
          195                   200                   205
Glu Gln Val Leu Lys Pro Leu Gly Asp Asn Leu Met Glu Glu Asn Ile
      210                   215                   220
Arg Gln Ser Val Thr Asn Ser Ile Lys Ala Gly Leu Thr Asp Gln Val
225                   230                   235                   240
Ser His His Ala Arg Leu Lys Thr Asp
                  245
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```
<210> 5205
<211> 2011
<212> DNA
<213> Homo sapiens

<400> 5205
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120
gccaaggcct ttcgggtcaa gtccaacacg gccatcaagg ggtcggacag gagaaagctt
180
cgagctgatg tgacaactgc tttccccacc cttggaactg atcaagtctc tgagttagta
240
cctggaaagg aggagctcaa cattgtgaag ttgtatgctc acaaagggga tgcagtgact
300
gtgtacgtga gtggtggtaa ccccatcctc tttgaactgg agaaaaatct gtatccaaca
360
gtgtacacgc tgtggtccta tcctgatctt ctgccaacct ttacaacatg gcctctggtg
420
ctcgagaaac tggtagggggg agcagatttg atgctgcctg gactggtgat gccccctgct
480
ggtctgcctc aggtacagaa gggcgacctc tgtgccattt ctttggtggg gaacagagcc
540
cctgtagcca ttggagttgc agccatgtcc acagctgaga tgctcacgtc aggcctgaag
600
ggaagggggct tctctgtgct ccacacttac caggaccact tgtggcggtc tggaaacaag
660
tcctctccac cttccattgc tccactggcc ctggattcag cagatctcag tgaagagaag
720
gggtctgtcc agatggactc caccctgcag ggagacatga ggcacatgac cctggagggg
780
gaagaggaga tggggaggt tcaccagggc acgtgaagac aatctctctc agaagcccca
840
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gaagacacca gcaccagggg cctgaaccaa gactccacag atagcaaaac gcttcaagaa
900
caaatggatg agctgttaca gcaatgcttc ttacatgcct tgaagtgccg agtcaaaaag
960
gctgacctcc ctttactcac cagcactttc cttggcagcc acatgttctc ctgctgcccc
1020
gaangacgac aactggacat aaagaagtca agctacaaaa agctctctaa gttcctgcag
1080
caaatgcagc aggagcagat tatacaggtg aaggagctga gcaaaggggt ggagagcatt
1140
gtggctgtgg actggaaaca cccgaggatt acatctttcg tcatacccga gccctccccg
1200
acctcccaga ctatccagga gggtagcagg aacagccct atcaccctcc agatataaaa
1260
cccctctact gtgtcccagc cagcatgacc ctgctcttcc aggagtctgg ccacaagaag
1320
gggagctttc tggagggcag tgaggtccga acgatcgtca ttaactacgc caagaaaaat
1380
gacctggttg atgcagacaa caaaaatctt gtgagattgg atcccatcct atgtgactgc
1440
atcttagaga aaaatgaaca gcatacagtc atgaagcttc catgggacag tcttctgacc
1500
aggtgtttgg aaaaattaca gcctgcctat caagtgaccc ttcccggaca agagcccatt
1560
gtgaagaaag ggagaatctg tccaattgac atcaccctag cacaaagagc gtctaataaa
1620
aaggtgaccg tggtccggaa cttggaggcc tatggtctgg acccatactc agtggctgcc
1680
atccttcagc agcgatgcca ggctagcacc accgtcaatc ctgcccctgg ggccaaggac
1740
agccttcagg tgcagatcca gggaaaccag gtccaccacc tcggctggct attgcttgaa
1800
gagtatcagc tccctcgaaa acacatccaa ggtctagaaa aggccctcaa acctggcaag
1860
aagaagtgac agactctttt gtctcacgtg gtggatccgg tggaaatcca agctctgggc
1920
tggtaatttt tatgagcatt ttcagctttt gcaaatacaa aatataattc tttacaaaaa
1980
taaatttta ttctgatcta aaaaaaaaaa a
2011

<210> 5206
<211> 248
<212> PRT
<213> Homo sapiens

<400> 5206
His Ser Leu Ala Ser Val Leu Ser Ser Pro Gly His Pro Ser Arg His
1   5   10   15
Val Ala Lys Ala Phe Arg Val Lys Ser Asn Thr Ala Ile Lys Gly Ser
            20   25   30
Asp Arg Arg Lys Leu Arg Ala Asp Val Thr Thr Ala Phe Pro Thr Leu
        35   40   45
Gly Thr Asp Gln Val Ser Glu Leu Val Pro Gly Lys Glu Glu Leu Asn

4386

```
                 50                        55                        60
Ile Val Lys Leu Tyr Ala His Lys Gly Asp Ala Val Thr Val Tyr Val
65                        70                        75                        80
Ser Gly Gly Asn Pro Ile Leu Phe Glu Leu Glu Lys Asn Leu Tyr Pro
                         85                        90                        95
Thr Val Tyr Thr Leu Trp Ser Tyr Pro Asp Leu Leu Pro Thr Phe Thr
                         100                       105                       110
Thr Trp Pro Leu Val Leu Glu Lys Leu Val Gly Gly Ala Asp Leu Met
                 115                       120                       125
Leu Pro Gly Leu Val Met Pro Pro Ala Gly Leu Pro Gln Val Gln Lys
         130                       135                       140
Gly Asp Leu Cys Ala Ile Ser Leu Val Gly Asn Arg Ala Pro Val Ala
145                       150                       155                       160
Ile Gly Val Ala Ala Met Ser Thr Ala Glu Met Leu Thr Ser Gly Leu
                 165                       170                       175
Lys Gly Arg Gly Phe Ser Val Leu His Thr Tyr Gln Asp His Leu Trp
                 180                       185                       190
Arg Ser Gly Asn Lys Ser Ser Pro Pro Ser Ile Ala Pro Leu Ala Leu
         195                       200                       205
Asp Ser Ala Asp Leu Ser Glu Glu Lys Gly Ser Val Gln Met Asp Ser
         210                       215                       220
Thr Leu Gln Gly Asp Met Arg His Met Thr Leu Glu Gly Glu Glu Glu
225                       230                       235                       240
Asn Gly Glu Val His Gln Gly Thr
                 245
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```
<210> 5207
<211> 594
<212> DNA
<213> Homo sapiens

<400> 5207
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gcccagggca agcagaggca gcaatggttg gtcctgacgg tggctgagcc cccagcccct
120
ggaatatgca gcccggggga gccccagaca gcggcaagga cgaggtggcg gagtggggcg
180
ggaggcatgg tctccaccta ccgggtggcc gtgctggggg cgcgaggtgt gggcaagagt
240
gccatcgtgc gccagttctt gtacaacgag ttcagcgagg tctgcgtccc caccaccgcc
300
cgccgccttt acctgcctgc tgtcgtcatg aacggccacg tgcacgacct ccagatcctc
360
gactttccac ccatcagcgc cttccctgtc aatacgctcc aggagtgggc agacacctgc
420
tgcaggggac tccggagtgt ccacgcctac atcctggtct acgacatctg ctgctttgac
480
agctttgagt acgtcaagac catccgccag cagatcctgg agacgagggt gatcggaacc
540
tcagagacgc ccatcatcat cgtgggcaac aagcgggacc tgcagcgcgg acgc
594

<210> 5208
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<211> 136
<212> PRT
<213> Homo sapiens

<400> 5208
Met Val Ser Thr Tyr Arg Val Ala Val Leu Gly Ala Arg Gly Val Gly
1               5                   10                  15
Lys Ser Ala Ile Val Arg Gln Phe Leu Tyr Asn Glu Phe Ser Glu Val
            20                  25                  30
Cys Val Pro Thr Thr Ala Arg Arg Leu Tyr Leu Pro Ala Val Val Met
        35                  40                  45
Asn Gly His Val His Asp Leu Gln Ile Leu Asp Phe Pro Pro Ile Ser
    50                  55                  60
Ala Phe Pro Val Asn Thr Leu Gln Glu Trp Ala Asp Thr Cys Cys Arg
65                  70                  75                  80
Gly Leu Arg Ser Val His Ala Tyr Ile Leu Val Tyr Asp Ile Cys Cys
                85                  90                  95
Phe Asp Ser Phe Glu Tyr Val Lys Thr Ile Arg Gln Gln Ile Leu Glu
            100                 105                 110
Thr Arg Val Ile Gly Thr Ser Glu Thr Pro Ile Ile Ile Val Gly Asn
            115                 120                 125
Lys Arg Asp Leu Gln Arg Gly Arg
    130                 135

<210> 5209
<211> 1592
<212> DNA
<213> Homo sapiens

<400> 5209
atcctgtggg gcctgaagct tgtcatcttc ctggccggct tcgtggccct gatgaggtcg
60
gtgcctgacc cttccacccg ggccctgcta ctcctggcct tgctgatcct ctacgccctg
120
ctgagccggc tcactggctc ccgagcctct ggggcccaac tcgaggccaa ggtgcgaggg
180
ctggaacgcc aggtggagga gctgcgctgg cgccagaggc gagcggccaa gggggcccgc
240
agtgtggagg aggagtgagc cggatgcccc acacaccgcc agtgtcatac caaagagctg
300
agctgcttcg gggccatgca gccctcctgc cagccccctg cccttttctt gccctgtctc
360
tgaaccttca gaacattgat ccttgccgca gccccactag ccaagagaaa cagagaaaga
420
ccattccccc tgcctgtcct tgcggccctg tcttctgagg ttctctgtct ggggttggct
480
ctcttaaccc tttctctgct cccagcctgc ctcaccaggg aaggttggag gggcctccct
540
ctggcttctg catctgcgcc agcaaacatc actgccgttg gtctctcatg acttaactgg
600
cttccctctg ctgctgcctt ggcttcctcc taatgctcgt gctctcctgt ccttctgaag
660
ttgctccttg gccaaatctc cagctccctt cttgttttcc tcatcctcct accctgtact
720
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cccaccaaac catggtcctt taaggcacgc tcctgtcctc ctcattgccc agcagtaggg
780
aggggcaggg gtaaggggac ctgaggataa agggtgggga aacagggtcc cctgaggcct
840
gtgggggctg caggggagga ggatgtacct tgtgtctctt tcaagtgcct taatccgagc
900
cagcagggcc ttctgcttgc ctgctgccat actgtatgta ggaaagtgtt ctgtggctgc
960
tttgtgtcaa gaaaagagca gtcactctca gaatcttgat tccccatcag ccaaagcaaa
1020
agatggctgc tgctttgtag gcatgtgcct gcaagtggga ccttgctggg cattatatgc
1080
cctgtggggg tttcagagac cctgaaagag gagggaggac ccgcctcctt gtctgcacaa
1140
ctgcatgcac ttctctcccc atcgctccac aacctgaaac cgagaaggag ttgctgacca
1200
gtgcccaccc cggcagcccg ggaggaacac aggcagctcc tttcccttca cgtggtctgc
1260
agagagcagg gtgagctgcc agctgcccct ctccaccagg gtaccctgtc ttggtggtta
1320
ggggccactt ttcctttgag gctctagtgg aggtggatgt ccttctctgc caggcttggc
1380
acatgatgtg aagaataaat gcccaattct tactgttcag gtttgatgtg gaatcacagc
1440
tgcagtgata tatattttt atcagtgctt ggttggtttt aaataaagtg cacgctattt
1500
tattatcttg ttctgaataa aatgtattta ctccaaaaaa aaaaaaaaa aaaaaaaaaa
1560
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
1592

<210> 5210
<211> 85
<212> PRT
<213> Homo sapiens

<400> 5210
Ile Leu Trp Gly Leu Lys Leu Val Ile Phe Leu Ala Gly Phe Val Ala
1   5   10   15
Leu Met Arg Ser Val Pro Asp Pro Ser Thr Arg Ala Leu Leu Leu Leu
            20   25   30
Ala Leu Leu Ile Leu Tyr Ala Leu Leu Ser Arg Leu Thr Gly Ser Arg
        35   40   45
Ala Ser Gly Ala Gln Leu Glu Ala Lys Val Arg Gly Leu Glu Arg Gln
    50   55   60
Val Glu Glu Leu Arg Trp Arg Gln Arg Arg Ala Ala Lys Gly Ala Arg
65   70   75   80
Ser Val Glu Glu Glu
                85

<210> 5211
<211> 602
<212> DNA
<213> Homo sapiens

<400> 5211
gcagttcagt ctttgattgg ttgctgagag gcggggctac tcgactgctc tggaggtagc
60
ggccgcggtg aggagagcca tgggacgggc agtcaaggtt ttacagctct ttaaaacact
120
gcacaggacc agacaacaag tttttaaaaa tgatgccaga gcattagaag cagccagaat
180
aaagataaat gaagaattca aaaataataa aagtgaaact cttctaaga aaatagaaga
240
gctaatgaaa ataggttctg atgttgaatt attactcaga acatctgtta tacaaggtat
300
tcacacagac cacaatacac tgaaactggt ccctaggaaa gaccttcttg tagaaaatgt
360
gccatattgt gatgcaccaa ctcagaagca atgagttttc tagaatacaa caagtctttg
420
tacttttttaa ctttaaaatc tacaactctg gcaaaagtcc tggaaatgca gacattttcc
480
ctgaactggc atattgaaaa tgaatgaatt acagaatagc ttcatattta aatttcatgt
540
taaaaggtca ttactgagaa ctaaagaaca taattaagta tttctaaagg aaattagata
600
ag
602

<210> 5212
<211> 104
<212> PRT
<213> Homo sapiens

<400> 5212
Met Gly Arg Ala Val Lys Val Leu Gln Leu Phe Lys Thr Leu His Arg
1   5   10   15
Thr Arg Gln Gln Val Phe Lys Asn Asp Ala Arg Ala Leu Glu Ala Ala
            20   25   30
Arg Ile Lys Ile Asn Glu Glu Phe Lys Asn Asn Lys Ser Glu Thr Ser
        35   40   45
Ser Lys Lys Ile Glu Glu Leu Met Lys Ile Gly Ser Asp Val Glu Leu
    50   55   60
Leu Leu Arg Thr Ser Val Ile Gln Gly Ile His Thr Asp His Asn Thr
65   70   75   80
Leu Lys Leu Val Pro Arg Lys Asp Leu Leu Val Glu Asn Val Pro Tyr
                85   90   95
Cys Asp Ala Pro Thr Gln Lys Gln
            100

<210> 5213
<211> 4387
<212> DNA
<213> Homo sapiens

<400> 5213
nnccgcggag ctacggtttc ctccagaggt ctccgcccct ctgcccctat attcccagaa
60

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cccgagtctg atccgggcct tgccgggcac cctggaaagg cgggggtgat agtacagatg
120
gagacgcaac tgcagagcat tttcgaagag gtggtgaaaa cggaagttat agaagaggct
180
tttcctggca tgtttatgga tactcctgaa gatgagaaaa caaaactaat tagctgtttg
240
ggggccttca gacagttttg gggtggactt tctcaggagt ctcatgaaca gtgtatccag
300
tggattgtta agtttattca tggtcagcat agtcctaaaa gaatttcttt tctttatgac
360
tgcttagcaa tggcagttga gactggtctc cttccaccca ggctggtttg tgaatccctg
420
ataaactctg acactcttga gtgggaaaga acacagcttt gggccttaac atttaaactg
480
gttcggaaaa taattggggg agtggattac aagggtgttc gagatctctt aaaagtgatt
540
ttggagaaga tttttgacaat tcctaataca gtgagctctg ctgttgtaca gcagcttctg
600
gcagcaagag aggttatagc atatatcttg gaaagaaatg cctgcttatt accagcctat
660
tttgcagtca ctgagatcag gaaactgtat cctgaaggca aacttccaca ctggttactt
720
ggaaacctag tatcagactt tgtggatacc ttcaggccca cagcaaggat aaactccatt
780
tgtggtcgct gtagtcttct gccagttgta aataattcgg gtgccatttg taattcatgg
840
aaactggatc ctgctactct tcgttttcct ttgaaaggcc ttttgccata tgataaggat
900
ctgtttgaac cacagactgc tttgttgaga tatgtattgg agcagcctta ttccagggat
960
atggtctgca atatgctagg tttaaataag cagcacaagc agcgctgccc tgtgctggag
1020
gaccagttgg tggatctggt tgtttatgcc atggagcgat ctgagaccga ggagaagttt
1080
gacgatgggg gaacaagcca actcctgtgg cagcatctct caagtcagct cattttcttt
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1260
ggaagtattc agaaaaatgc actagctgat tttctccctg tgatgaagct cttcgacttg
1320
ctatacccag aaaaagaata tatcccagtt cctgatatta acaaacccca gtcaacccat
1380
gcctttgcaa tgacctgtat ttggattcat ctcaatagaa aagctcaaaa tgacaactcc
1440
aagctacaga ttccaatacc tcattcccta agacttcacc atgagttcct gcagcagagt
1500
ctaagacata aaagtttaca gatgaatgac tataagattg ctctattgtg taatgcatac
1560
tctacaaatt cagaatgtgt tacattaccc atgggagctc tggtagaaac tatttatgga
1620
aatggaatta tgagactacc tctccctgga acaaactgta tggcttcagc atctattacc
1680
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cccttaccta tgaacctcct ggattcactg acagttcatg ccaaaatgag ccttattcac
1740
agcattgcaa ccagggtgat aaaacttgct catgcaaagt ccagtgtggc cttggctcca
1800
gccctagtgg aaacttacag tcgtttattg gtctatatgg aaatagagtc tttgggcatc
1860
aaaggattta tcagtcagct tttgccaact gtgttcaaat cacatgcatg ggggatctta
1920
cacacactcc ttgagatgtt tagctaccgg atgcatcata ttcagcctca ttacagagtt
1980
cagctcctga gtcatcttca tactttggct gcagttgcac aaacaaacca gaaccagctc
2040
catctttgtg tcgagagcac tgctctcagg cttataacag cattaggtag ctcagaggta
2100
caaccgcagt ttacacgctt ccttagtgat cccaaaacag tgctctcagc agaatctgaa
2160
gaactgaacc gagccttgat attgaccttg gctagagcaa ctcatgtaac agattttttt
2220
acaggctctg attcaattca gggaacttgg tgtaaagaca tacttcagac catcatgagt
2280
ttcactcctc ataattgggc ttcacacacc ctgagctgtt ttccaggccc actacaggca
2340
ttcttcaaac aaaataatgt gcctcaggaa agccgtttta atctgaaaaa aaatgtggag
2400
gaggagtata ggaagtggaa gtcaatgagc aacgaaaacg acattattac ccacttctct
2460
atgcagggct cccctcctct ctttctttgt cttctctgga aaatgctctt ggaaacagat
2520
catattaatc agattggcta tagagtatta gagagaattg gagccagggc cttggtagcc
2580
catgtgagga catttgcaga tttcctggta tatgagtttt ctacatcagc agggggtcag
2640
caactcaata aatgcattga aattcttaat gacatggtat ggaagtataa cattgttaca
2700
ctggacagat taattctctg cctggccatg cgtagtcacg aaggaaatga agcccaggtt
2760
tgttatttca taattcagtt gctgttactc aaaccaaacg attttagaaa tcgagtaagt
2820
gactttgtga aggaaaattc cccagagcac tggttacaga atgactggca caccaagcac
2880
atgaattatc acaagaaata tccagagaag ttgtattttg agggcctcgc ggaacaggtg
2940
gatcctcctg tacagatcca gtctccctat ctgcccatct attttgggaa tgtgtgtctt
3000
cgattccttc cagtatttga tatagtaatc cacagatttt tagagttgct tccggtatcc
3060
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3120
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3300
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4387

<210> 5214
<211> 1364
<212> PRT
<213> Homo sapiens

<400> 5214
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Val Ile Glu Glu Ala Phe Pro Gly Met Phe Met Asp Thr Pro Glu Asp
                20   25   30
Glu Lys Thr Lys Leu Ile Ser Cys Leu Gly Ala Phe Arg Gln Phe Trp
            35   40   45
Gly Gly Leu Ser Gln Glu Ser His Glu Gln Cys Ile Gln Trp Ile Val
        50   55   60
Lys Phe Ile His Gly Gln His Ser Pro Lys Arg Ile Ser Phe Leu Tyr

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65                      70                      75                      80
Asp Cys Leu Ala Met Ala Val Glu Thr Gly Leu Leu Pro Pro Arg Leu
                85                      90                      95
Val Cys Glu Ser Leu Ile Asn Ser Asp Thr Leu Glu Trp Glu Arg Thr
                100                     105                     110
Gln Leu Trp Ala Leu Thr Phe Lys Leu Val Arg Lys Ile Ile Gly Gly
                115                     120                     125
Val Asp Tyr Lys Gly Val Arg Asp Leu Leu Lys Val Ile Leu Glu Lys
    130                     135                     140
Ile Leu Thr Ile Pro Asn Thr Val Ser Ser Ala Val Val Gln Gln Leu
145                     150                     155                     160
Leu Ala Ala Arg Glu Val Ile Ala Tyr Ile Leu Glu Arg Asn Ala Cys
                165                     170                     175
Leu Leu Pro Ala Tyr Phe Ala Val Thr Glu Ile Arg Lys Leu Tyr Pro
                180                     185                     190
Glu Gly Lys Leu Pro His Trp Leu Leu Gly Asn Leu Val Ser Asp Phe
                195                     200                     205
Val Asp Thr Phe Arg Pro Thr Ala Arg Ile Asn Ser Ile Cys Gly Arg
    210                     215                     220
Cys Ser Leu Leu Pro Val Val Asn Asn Ser Gly Ala Ile Cys Asn Ser
225                     230                     235                     240
Trp Lys Leu Asp Pro Ala Thr Leu Arg Phe Pro Leu Lys Gly Leu Leu
                245                     250                     255
Pro Tyr Asp Lys Asp Leu Phe Glu Pro Gln Thr Ala Leu Leu Arg Tyr
                260                     265                     270
Val Leu Glu Gln Pro Tyr Ser Arg Asp Met Val Cys Asn Met Leu Gly
    275                     280                     285
Leu Asn Lys Gln His Lys Gln Arg Cys Pro Val Leu Glu Asp Gln Leu
    290                     295                     300
Val Asp Leu Val Val Tyr Ala Met Glu Arg Ser Glu Thr Glu Glu Lys
305                     310                     315                     320
Phe Asp Asp Gly Gly Thr Ser Gln Leu Leu Trp Gln His Leu Ser Ser
                325                     330                     335
Gln Leu Ile Phe Phe Val Leu Phe Gln Phe Ala Ser Phe Pro His Met
                340                     345                     350
Val Leu Ser Leu His Gln Lys Leu Ala Gly Arg Gly Leu Ile Lys Gly
                355                     360                     365
Arg Asp His Leu Met Trp Val Leu Leu Gln Phe Ile Ser Gly Ser Ile
    370                     375                     380
Gln Lys Asn Ala Leu Ala Asp Phe Leu Pro Val Met Lys Leu Phe Asp
385                     390                     395                     400
Leu Leu Tyr Pro Glu Lys Glu Tyr Ile Pro Val Pro Asp Ile Asn Lys
                405                     410                     415
Pro Gln Ser Thr His Ala Phe Ala Met Thr Cys Ile Trp Ile His Leu
                420                     425                     430
Asn Arg Lys Ala Gln Asn Asp Asn Ser Lys Leu Gln Ile Pro Ile Pro
                435                     440                     445
His Ser Leu Arg Leu His His Glu Phe Leu Gln Gln Ser Leu Arg His
    450                     455                     460
Lys Ser Leu Gln Met Asn Asp Tyr Lys Ile Ala Leu Leu Cys Asn Ala
465                     470                     475                     480
Tyr Ser Thr Asn Ser Glu Cys Val Thr Leu Pro Met Gly Ala Leu Val
                485                     490                     495
Glu Thr Ile Tyr Gly Asn Gly Ile Met Arg Leu Pro Leu Pro Gly Thr
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                     500                      505                      510
Asn Cys Met Ala Ser Ala Ser Ile Thr Pro Leu Pro Met Asn Leu Leu
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Asp Ser Leu Thr Val His Ala Lys Met Ser Leu Ile His Ser Ile Ala
         530                      535                      540
Thr Arg Val Ile Lys Leu Ala His Ala Lys Ser Ser Val Ala Leu Ala
545                      550                      555                      560
Pro Ala Leu Val Glu Thr Tyr Ser Arg Leu Leu Val Tyr Met Glu Ile
                     565                      570                      575
Glu Ser Leu Gly Ile Lys Gly Phe Ile Ser Gln Leu Leu Pro Thr Val
                     580                      585                      590
Phe Lys Ser His Ala Trp Gly Ile Leu His Thr Leu Leu Glu Met Phe
         595                      600                      605
Ser Tyr Arg Met His His Ile Gln Pro His Tyr Arg Val Gln Leu Leu
         610                      615                      620
Ser His Leu His Thr Leu Ala Ala Val Ala Gln Thr Asn Gln Asn Gln
625                      630                      635                      640
Leu His Leu Cys Val Glu Ser Thr Ala Leu Arg Leu Ile Thr Ala Leu
                     645                      650                      655
Gly Ser Ser Glu Val Gln Pro Gln Phe Thr Arg Phe Leu Ser Asp Pro
                     660                      665                      670
Lys Thr Val Leu Ser Ala Glu Ser Glu Glu Leu Asn Arg Ala Leu Ile
         675                      680                      685
Leu Thr Leu Ala Arg Ala Thr His Val Thr Asp Phe Phe Thr Gly Ser
         690                      695                      700
Asp Ser Ile Gln Gly Thr Trp Cys Lys Asp Ile Leu Gln Thr Ile Met
705                      710                      715                      720
Ser Phe Thr Pro His Asn Trp Ala Ser His Thr Leu Ser Cys Phe Pro
                     725                      730                      735
Gly Pro Leu Gln Ala Phe Phe Lys Gln Asn Asn Val Pro Gln Glu Ser
                     740                      745                      750
Arg Phe Asn Leu Lys Lys Asn Val Glu Glu Glu Tyr Arg Lys Trp Lys
         755                      760                      765
Ser Met Ser Asn Glu Asn Asp Ile Ile Thr His Phe Ser Met Gln Gly
         770                      775                      780
Ser Pro Pro Leu Phe Leu Cys Leu Leu Trp Lys Met Leu Leu Glu Thr
785                      790                      795                      800
Asp His Ile Asn Gln Ile Gly Tyr Arg Val Leu Glu Arg Ile Gly Ala
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Arg Ala Leu Val Ala His Val Arg Thr Phe Ala Asp Phe Leu Val Tyr
         820                      825                      830
Glu Phe Ser Thr Ser Ala Gly Gly Gln Gln Leu Asn Lys Cys Ile Glu
         835                      840                      845
Ile Leu Asn Asp Met Val Trp Lys Tyr Asn Ile Val Thr Leu Asp Arg
         850                      855                      860
Leu Ile Leu Cys Leu Ala Met Arg Ser His Glu Gly Asn Glu Ala Gln
865                      870                      875                      880
Val Cys Tyr Phe Ile Ile Gln Leu Leu Leu Leu Lys Pro Asn Asp Phe
                     885                      890                      895
Arg Asn Arg Val Ser Asp Phe Val Lys Glu Asn Ser Pro Glu His Trp
         900                      905                      910
Leu Gln Asn Asp Trp His Thr Lys His Met Asn Tyr His Lys Lys Tyr
         915                      920                      925
Pro Glu Lys Leu Tyr Phe Glu Gly Leu Ala Glu Gln Val Asp Pro Pro
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      930                    935                    940
Val Gln Ile Gln Ser Pro Tyr Leu Pro Ile Tyr Phe Gly Asn Val Cys
945                    950                    955                    960
Leu Arg Phe Leu Pro Val Phe Asp Ile Val Ile His Arg Phe Leu Glu
                  965                    970                    975
Leu Leu Pro Val Ser Lys Ser Leu Glu Thr Leu Leu Asp His Leu Gly
                  980                    985                    990
Gly Leu Tyr Lys Phe His Asp Arg Pro Val Thr Tyr Leu Tyr Asn Thr
             995                    1000                   1005
Leu His Tyr Tyr Glu Met His Leu Arg Asp Arg Ala Phe Leu Lys Arg
      1010                   1015                   1020
Lys Leu Val His Ala Ile Ile Gly Ser Leu Lys Asp Asn Arg Pro Gln
1025                   1030                   1035                   1040
Gly Trp Cys Leu Ser Asp Thr Tyr Leu Lys Cys Ala Met Asn Ala Arg
                  1045                   1050                   1055
Glu Glu Asn Pro Trp Val Pro Asp Asp Thr Tyr Tyr Cys Arg Leu Ile
             1060                   1065                   1070
Gly Arg Leu Val Asp Thr Met Ala Gly Lys Ser Pro Gly Pro Phe Pro
             1075                   1080                   1085
Asn Cys Asp Trp Arg Phe Asn Glu Phe Pro Asn Pro Ala Ala His Ala
      1090                   1095                   1100
Leu His Val Thr Cys Val Glu Leu Met Ala Leu Ala Val Ser Gly Lys
1105                   1110                   1115                   1120
Glu Val Gly Asn Ala Leu Leu Asn Val Val Leu Lys Ser Gln Pro Leu
                  1125                   1130                   1135
Val Pro Arg Glu Asn Ile Thr Ala Trp Met Asn Ala Ile Gly Leu Ile
             1140                   1145                   1150
Ile Thr Ala Leu Pro Glu Pro Tyr Trp Ile Val Leu His Asp Arg Ile
             1155                   1160                   1165
Val Ser Val Ile Ser Ser Pro Ser Leu Thr Ser Glu Thr Glu Trp Val
      1170                   1175                   1180
Gly Tyr Pro Phe Arg Leu Phe Asp Phe Thr Ala Cys His Gln Ser Tyr
1185                   1190                   1195                   1200
Ser Glu Met Ser Cys Ser Tyr Thr Leu Ala Leu Ala His Ala Val Trp
                  1205                   1210                   1215
His His Ser Ser Ile Gly Gln Leu Ser Leu Ile Pro Lys Phe Leu Thr
             1220                   1225                   1230
Glu Val Leu Leu Pro Ile Val Lys Thr Glu Phe Gln Leu Leu Tyr Val
             1235                   1240                   1245
Tyr His Leu Val Gly Pro Phe Leu Gln Arg Phe Gln Gln Glu Arg Thr
      1250                   1255                   1260
Arg Cys Met Ile Glu Ile Gly Val Ala Phe Tyr Asp Met Leu Leu Asn
1265                   1270                   1275                   1280
Val Asp Gln Cys Ser Thr His Leu Asn Tyr Met Asp Pro Ile Cys Asp
                  1285                   1290                   1295
Phe Leu Tyr His Met Lys Tyr Met Phe Thr Gly Asp Ser Val Lys Glu
             1300                   1305                   1310
Gln Val Glu Lys Ile Ile Cys Asn Leu Lys Pro Ala Leu Lys Leu Arg
             1315                   1320                   1325
Leu Arg Phe Ile Thr His Ile Ser Lys Met Glu Pro Ala Ala Val Pro
      1330                   1335                   1340
Pro Gln Ala Met Asn Ser Gly Ser Pro Ala Pro Gln Ser Asn Gln Val
1345                   1350                   1355                   1360
Asp Thr Leu Thr
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<210> 5215
<211> 548
<212> DNA
<213> Homo sapiens

<400> 5215
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120
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180
gctgtctcgc gagaaaactt taacacgtga ggagttgcct ctgaagggtg agcaggggag
240
ttgcttcagt tgcgctctag tcccagtgaa gattctgtga acctgggggt aatgaggaca
300
aagaacttgg aacagcccgg aacctcggtt gatgaagccg cggccgggnt tgagaggacc
360
gactgcagtt ctgaaagacg ttctgctgtg ggttcaatgc tatcagacag catcacgccc
420
cacagagaaa tctttcatga aaggaagagt ccatcgctgt ggccaacttt tttgtggtca
480
tagtttaaga agttgcccca gcctccagca gccaccgccc caacgagtca gccgccgtcc
540
acattgag
548

<210> 5216
<211> 83
<212> PRT
<213> Homo sapiens

<400> 5216
Ala Gly Glu Leu Leu Gln Leu Arg Ser Ser Pro Ser Glu Asp Ser Val
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Asn Leu Gly Val Met Arg Thr Lys Asn Leu Glu Gln Pro Gly Thr Ser
            20   25   30
Val Asp Glu Ala Ala Ala Gly Xaa Glu Arg Thr Asp Cys Ser Ser Glu
        35   40   45
Arg Arg Ser Ala Val Gly Ser Met Leu Ser Asp Ser Ile Thr Pro His
    50   55   60
Arg Glu Ile Phe His Glu Arg Lys Ser Pro Ser Leu Trp Pro Thr Phe
65   70   75   80
Leu Trp Ser

<210> 5217
<211> 4189
<212> DNA
<213> Homo sapiens

<400> 5217

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120
ccccactggc gcaggctgcc ccaggccctg tgcagacaca ccaggccctc agccgcagcc
180
catggacctg cgggtgccag cggcccccag tggagccccc accagagccc acattgctgg
240
ccctgcagcg tccccagcgc ctgcaccacc acctcttcct agcaggcctg cagcagcagc
300
gctcggtgga gcccatgagg ctctccatgg acacgccgat gcccgagttg caggtgggac
360
cccaggaaca acagctgcgg cagcttctcc acaaggacaa gagcaagcga agtgctgtag
420
ccagcagcgt ggtcaagcag aagctagcgg aggtgattct gaaaaaacag caggcggccc
480
tagaaagaac agtccatccc aacagccccg gcattcccta cagaaccctg gagcccctgg
540
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600
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660
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720
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840
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900
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960
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1020
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1080
ccttgccctc tcgcctgcag cccattctcc tcctggaccc ctcaggctct catgccccgc
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1200
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1260
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1320
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1620
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1860
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1920
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1980
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2160
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2460
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3180
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3240
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agaggagacg ggctgggcgg cgacccccac agggctctcg agaacagatt ctcccctcca
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3360
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3480
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3540
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3660
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3720
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3780
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4080
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4189
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<210> 5218
<211> 541
<212> PRT
<213> Homo sapiens
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<400> 5218
Met Ala Gly Asp Arg Ala Arg Trp Trp Thr Met Ala Trp Ser Thr Gly
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Ser Trp Ala Met Gly Ser Leu Arg Pro Glu Ala Pro Leu Leu Ser Ser
            20                  25                  30
Ser Thr Leu Arg Cys Cys Ser Gly Asn Ser Ser Asp Trp Leu Gly Gly
            35                  40                  45
Ser Pro Gly Ala Ala Pro Gly Thr Leu Cys Cys Phe Leu Trp Pro Arg
        50                  55                  60
Val Gly Thr Gly Leu Cys Pro Gly Leu Ser Leu Pro Gln Pro His Leu
65                  70                  75                  80
Pro His Cys Gln Pro Gln Ser Leu Pro Ala Xaa Ala Arg Val Leu Ser
                85                  90                  95
Ser Ser Glu Thr Pro Ala Arg Thr Leu Pro Phe Thr Thr Gly Leu Ile
            100                 105                 110
Tyr Asp Ser Val Met Leu Lys His Gln Cys Ser Cys Gly Asp Asn Ser
```

```
           115                   120                   125
Arg His Pro Glu His Ala Gly Arg Ile Gln Ser Ile Trp Ser Arg Leu
        130                   135                   140
Gln Glu Arg Gly Leu Arg Ser Gln Cys Glu Cys Leu Arg Gly Arg Lys
145                   150                   155                   160
Ala Ser Leu Glu Glu Leu Gln Ser Val His Ser Glu Arg His Val Leu
                   165                   170                   175
Leu Tyr Gly Thr Asn Pro Leu Ser Arg Leu Lys Leu Asp Asn Gly Lys
                180                   185                   190
Leu Ala Gly Leu Leu Ala Gln Arg Met Phe Val Met Leu Pro Cys Gly
             195                   200                   205
Gly Val Gly Val Asp Thr Asp Thr Ile Trp Asn Glu Leu His Ser Ser
        210                   215                   220
Asn Ala Ala Arg Trp Ala Ala Gly Ser Val Thr Asp Leu Ala Phe Lys
225                   230                   235                   240
Val Ala Ser Arg Glu Leu Lys Asn Gly Phe Ala Val Val Arg Pro Pro
                   245                   250                   255
Gly His His Ala Asp His Ser Thr Ala Met Gly Phe Cys Phe Phe Asn
                260                   265                   270
Ser Val Ala Ile Ala Cys Arg Gln Leu Gln Gln Gln Ser Lys Ala Ser
             275                   280                   285
Lys Ile Leu Ile Val Asp Trp Asp Val His His Gly Asn Ala Thr Gln
        290                   295                   300
Gln Thr Phe Tyr Gln Asp Pro Ser Val Leu Tyr Ile Ser Leu His Arg
305                   310                   315                   320
His Asp Asp Gly Asn Phe Phe Pro Gly Ser Gly Ala Val Asp Glu Val
                   325                   330                   335
Gly Ala Gly Ser Gly Glu Gly Phe Asn Val Asn Val Ala Trp Ala Gly
                340                   345                   350
Gly Leu Asp Pro Pro Met Gly Asp Pro Glu Tyr Leu Ala Ala Phe Arg
             355                   360                   365
Ile Val Val Met Pro Ile Ala Arg Glu Phe Ser Pro Asp Leu Val Leu
        370                   375                   380
Val Ser Ala Gly Phe Asp Ala Ala Glu Gly His Pro Ala Pro Leu Gly
385                   390                   395                   400
Gly Tyr His Val Ser Ala Lys Cys Phe Gly Tyr Met Thr Gln Gln Leu
                   405                   410                   415
Met Asn Leu Ala Gly Gly Ala Val Val Leu Ala Leu Glu Gly Gly His
                420                   425                   430
Asp Leu Thr Ala Ile Cys Asp Ala Ser Glu Ala Cys Val Ala Ala Leu
             435                   440                   445
Leu Gly Asn Arg Val Asp Pro Leu Ser Glu Glu Gly Trp Lys Gln Lys
        450                   455                   460
Pro Asn Leu Asn Ala Ile Arg Ser Leu Glu Ala Val Ile Arg Val His
465                   470                   475                   480
Ser Lys Tyr Trp Gly Cys Met Gln Arg Leu Ala Ser Cys Pro Asp Ser
                485                   490                   495
Trp Val Pro Arg Val Pro Gly Ala Asp Lys Glu Glu Val Glu Ala Val
             500                   505                   510
Thr Ala Leu Ala Ser Leu Ser Val Gly Ile Leu Ala Glu Asp Arg Pro
        515                   520                   525
Ser Glu Gln Leu Val Glu Glu Glu Pro Met Asn Leu
        530                   535                   540
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<210> 5219
<211> 1212
<212> DNA
<213> Homo sapiens

<400> 5219
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ctcggccggt cccgagtccg actccctcaa gggtgacgcg agctctgccc tttaaccgga
120
aacgtctccc tgctcacccc acccccgcgc agacgcagtg ctgagcacac agctaccgga
180
caaagagtga cgcccggagc tggagttatg gcggctacgg agccgatctt ggcggccact
240
gggagtcccg cggcggtgcc accggagaaa ctggaaggag ccggttcgag ctcagcccct
300
gagcgtaact gtgtgggctc ctcgctgcca gaggcctcac cgcctgcccc tgagccttcc
360
agtcccaacg ccgcggtccc tgaagccatc cctacgcccc gagctgcggc ctccgcggcc
420
ctggagctgc ctctcgggcc cgcacccgtg agcgtagcgc ctcaggccga agctgaagcg
480
cgctccacac caggccccgc cggctctaga ctcggtcccg agacgttccg ccagcgtttc
540
cggcagttcc gctaccagga tgcggcgggt ccccgggagg ctttccggca gctgcgggag
600
ctgtcccgcc agtggctgcg gcctgacatc cgcaccaagg agcagatcgt ggagatgctg
660
gtgcaagagc agctgctcgc catcctgccc gaggcggctc gggcccggcg gatccgccgc
720
cgcacggatg tgcgcatcac tggctgagcg gtggagctgc gggcggccag ggccgggcgc
780
tctgtgcgga ctggggccat gatcgggccc ggggggcctga gcctgggacc ccaccccgtg
840
ttaatgaaaa atgagttttg gcagcgcctg tggtctggtg tgtctctttc attcgttctt
900
attgggttta ttttaccaag cctgtttcct accgcctttc tggctggtgg cgaaacgaag
960
ttgggagtcc gtaacaataa ggccttcgtt ggctatagtg ggatctttag atgttgactg
1020
aacctaggtt atccctctac cacacatggg aagtttttca cctgggctcc caaggaccca
1080
cttgggtttc ttacacgcaa aatagctggc tctattaaat gctcacttaa ctggctacct
1140
ctataccaat atgggcacca acttgcacct gccctttggg tacaggcttc ccacaatgtc
1200
cnagttactg gg
1212

<210> 5220
<211> 179
<212> PRT
<213> Homo sapiens

<400> 5220
Met Ala Ala Thr Glu Pro Ile Leu Ala Ala Thr Gly Ser Pro Ala Ala
1   5   10   15
Val Pro Pro Glu Lys Leu Glu Gly Ala Gly Ser Ser Ser Ala Pro Glu
                20   25   30
Arg Asn Cys Val Gly Ser Ser Leu Pro Glu Ala Ser Pro Pro Ala Pro
            35   40   45
Glu Pro Ser Ser Pro Asn Ala Ala Val Pro Glu Ala Ile Pro Thr Pro
        50   55   60
Arg Ala Ala Ala Ser Ala Ala Leu Glu Leu Pro Leu Gly Pro Ala Pro
65   70   75   80
Val Ser Val Ala Pro Gln Ala Glu Ala Glu Ala Arg Ser Thr Pro Gly
                85   90   95
Pro Ala Gly Ser Arg Leu Gly Pro Glu Thr Phe Arg Gln Arg Phe Arg
            100   105   110
Gln Phe Arg Tyr Gln Asp Ala Ala Gly Pro Arg Glu Ala Phe Arg Gln
            115   120   125
Leu Arg Glu Leu Ser Arg Gln Trp Leu Arg Pro Asp Ile Arg Thr Lys
        130   135   140
Glu Gln Ile Val Glu Met Leu Val Gln Glu Gln Leu Leu Ala Ile Leu
145   150   155   160
Pro Glu Ala Ala Arg Ala Arg Arg Ile Arg Arg Arg Thr Asp Val Arg
                165   170   175
Ile Thr Gly

<210> 5221
<211> 497
<212> DNA
<213> Homo sapiens

<400> 5221
ntccggaccc tccaagtgga gaccctggtg gagcccccag aaccatgtgc cgagcccgct
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gcttttggag acacgcttca catacactac acgggaagct tggtagatgg acgtattatt
120
gacacctccc tgaccagaga ccctctggtt atagaacttg gccaaaagca ggtgattcca
180
ggtctggagc agagtcttct cgacatgtgt gtgggagaga agcgaagggc aatcattcct
240
tctcacttgg cctatggaaa acggggattt ccaccatctg tcccagggac taaagacaac
300
ctgatgaggc cacctggcat gacctccagc agccagtaac ttgttaggga agagacctgc
360
ttgggccaca tgggtctgct gcctgtgcca ccacctttcc cagaacactg gacttctttc
420
ctgccctttt ctacaactct acgctgtgtc agctgtacag ccacccccca cccctctctt
480
tcagccacca tctgtcc
497

<210> 5222
<211> 112
<212> PRT

<213> Homo sapiens

<400> 5222
Xaa Arg Thr Leu Gln Val Glu Thr Leu Val Glu Pro Pro Glu Pro Cys
1   5   10   15
Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu His Ile His Tyr Thr Gly
            20   25   30
Ser Leu Val Asp Gly Arg Ile Ile Asp Thr Ser Leu Thr Arg Asp Pro
        35   40   45
Leu Val Ile Glu Leu Gly Gln Lys Gln Val Ile Pro Gly Leu Glu Gln
    50   55   60
Ser Leu Leu Asp Met Cys Val Gly Glu Lys Arg Arg Ala Ile Ile Pro
65   70   75   80
Ser His Leu Ala Tyr Gly Lys Arg Gly Phe Pro Pro Ser Val Pro Gly
                85   90   95
Thr Lys Asp Asn Leu Met Arg Pro Pro Gly Met Thr Ser Ser Ser Gln
            100   105   110

<210> 5223
<211> 637
<212> DNA
<213> Homo sapiens

<400> 5223
ngcaccattt tcgacaatga agccaaagac gtggagagag aagtttgctt tattgatatt
60
gcctgcgatg aaattccaga gcgctactac aaagaatctg aggatcctaa gcacttcaag
120
tcagagaaga caggacgggg acagttgagg gaaggctgga gagatagtca tcagcctatc
180
atgtgctcct acaagctggt gactgtgaag tttgaggtct gggggcttca gaccagagtg
240
gaacaatttg tacacaaggt ggtccgagac attctgctga ttggacatag acaggctttt
300
gcatgggttg atgagtggta tgatatgaca atggatgatg ttcgggaata cgagaaaaac
360
atgcatgaac aaaccaacat aaaagtttgc aatcagcatt cctccctgt ggatgacata
420
gagagtcatg cccaaacaag tacatgacaa tggatgaagt ccgagaattt gaacgagcca
480
ctcaggaagc caccaacaag aaaatcggca ttttcccacc tgcaatttct atctccagca
540
tccccctgct gccttcttcc gtccgcagtg cgccttctag tgctccatcc accCctctct
600
ccacagacgc acccgaattt ctgtccgttc ccaaaga
637

<210> 5224
<211> 148
<212> PRT
<213> Homo sapiens

<400> 5224
Xaa Thr Ile Phe Asp Asn Glu Ala Lys Asp Val Glu Arg Glu Val Cys

4404

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 1                   5                        10                       15
Phe Ile Asp Ile Ala Cys Asp Glu Ile Pro Glu Arg Tyr Tyr Lys Glu
                20                      25                      30
Ser Glu Asp Pro Lys His Phe Lys Ser Glu Lys Thr Gly Arg Gly Gln
                35                      40                      45
Leu Arg Glu Gly Trp Arg Asp Ser His Gln Pro Ile Met Cys Ser Tyr
        50                      55                      60
Lys Leu Val Thr Val Lys Phe Glu Val Trp Gly Leu Gln Thr Arg Val
65                      70                      75                      80
Glu Gln Phe Val His Lys Val Val Arg Asp Ile Leu Leu Ile Gly His
                85                      90                      95
Arg Gln Ala Phe Ala Trp Val Asp Glu Trp Tyr Asp Met Thr Met Asp
                100                     105                     110
Asp Val Arg Glu Tyr Glu Lys Asn Met His Glu Gln Thr Asn Ile Lys
            115                     120                     125
Val Cys Asn Gln His Ser Ser Pro Val Asp Asp Ile Glu Ser His Ala
        130                     135                     140
Gln Thr Ser Thr
145


<210> 5225
<211> 394
<212> DNA
<213> Homo sapiens

<400> 5225
acgcgtgaag gggctggggt gggcaatcag ggaggacttc ctggaggcgg cagctgaggc
60
tggggcagag aaggacccag ggcactggaa ggggaaggag aaacgtaagc agagtcttgg
120
caggcctggt cagacggaca tgcccaaggg aacagatagt accaggacag gggaccctgg
180
tctgaagggg cgatagcctg gcccccagtg gaaacagccc ctcccaaccc tggcggcaga
240
cagggagggt cggcaggtat gtgagatgca aacctggggg actgcccatc ccccagtgga
300
tgtgaggaca cggtgggttc aggaagtgga gtgacaaatg gctgtgctg gacttgcttt
360
ccccacatga aggttaggaa ccaagagaac ggcc
394


<210> 5226
<211> 113
<212> PRT
<213> Homo sapiens

<400> 5226
Met Trp Gly Lys Gln Val Gln His Ser Pro Phe Val Thr Pro Leu Pro
 1               5                       10                      15
Glu Pro Thr Val Ser Ser His Pro Leu Gly Asp Gly Gln Ser Pro Arg
                20                      25                      30
Phe Ala Ser His Ile Pro Ala Asp Pro Pro Cys Leu Pro Pro Gly Leu
            35                      40                      45
Gly Gly Ala Val Ser Thr Gly Gly Gln Ala Ile Ala Pro Ser Asp Gln
```

```
          50                        55                        60
Gly Pro Leu Ser Trp Tyr Tyr Leu Phe Pro Trp Ala Cys Pro Ser Asp
65                        70                        75                        80
Gln Ala Cys Gln Asp Ser Ala Tyr Val Ser Pro Ser Pro Ser Ser Ala
                    85                        90                        95
Leu Gly Pro Ser Leu Pro Gln Pro Gln Leu Pro Pro Pro Gly Ser Pro
                   100                       105                       110
Pro
```

<210> 5227
<211> 2366
<212> DNA
<213> Homo sapiens

<400> 5227
tcgcgaacag gccacccagg cacacgtgga tgttctttag ctccttggcg ccaccagatg
60
cagctgccag tgagatgttc tgcagctgtt tgatcctctc gctgaagtcg acacccact
120
ggatgacggt catgccggca ggcaccgtgt agaaggccag tgtggtaacc ttacctgtct
180
acctgaactt cacccgtgca gacctcatct tcaccgtgga cttcgaaatt gctacaaagg
240
aggatcctcg cagcttctac gagcggggtg tcgcagtctt gtgcacagag taaacttttc
300
tagctgcccc tttctgtaat agtgaaagtt ggtatttaac atttattcat ttttaaaata
360
tttggaaggt ctgagcttgt gaaaagaaag tggttggtct gaggttggag gaagctgaat
420
ggaatctgac ggttgggagt ggtggaaatt ggaaggatac caggaggtat ttgggaaaac
480
cttacggagc tgccctcgtc tactggagca gaagaaatag acctaatttt cctcaaggga
540
attatggaga atcctattgt aaaatcactt gctaaggctc gtgagaggct agaagattcc
600
aaactagaag ctgtcagtga caataacttg gaattagtca atgaaattct tgaagacatc
660
actcctctaa taaatgtgga tgaaaatgtg gcagaattgg ttggtatact caaagaacct
720
cacttccagt cactgttgga ggcccatgat attgtggcat caaagtgtta tgattcacct
780
ccatcaagcc cagaaatgaa taattcttct atcaataatc agttattacc agtagatgcc
840
attcgtattc ttggtattca caaagagct ggggaaccac tgggtgtgac atttagggtt
900
gaaaataatg atctggtaat tgcccgaatc ctccatgggg gaatgataga tcgacaaggt
960
ctacttcatg tgggagatat aattaaagaa gtcaatggcc atgaggttgg aaataatcca
1020
aaggaattac aagaattact gaaaaatatt agtggaagtg tcaccctaaa aatcttacca
1080
agttatagag ataccattac tcctcaacag gtatttgtga agtgtcattt tgattataat
1140
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ccatacaatg acaacctaat accttgcaaa gaagcaggat tgaagttttc caaaggagag
1200
attcttcaga ttgtaaatag agaagatcca aattggtggc aggctagcca tgtaaaagag
1260
ggaggaagcg ctggtctcat tccaagccag ttcctggaag agaagagaaa ggcatttgtt
1320
agaagagact gggacaattc aggacctttt tgtggaacta taagtagcaa aaaaaagaaa
1380
aagatgatgt atctcacaac cagaaatgca gaatttgatc gtcatgaaat ccagatatat
1440
gaggaggtag ccaaaatgcc tcccttccag agaaaaacat tagtattgat aggagctcaa
1500
ggtgtaggcc gaagaagctt gaaaaacagg ttcatagtat tgaatcccac tagatttgga
1560
actacggtgc catttacttc acggaaacca agggaagatg aaaaagatgg ccaggcatat
1620
aagtttgtgt cacgatctga gatggaagca gatattaaag ctggaaagta tttggaacat
1680
ggggaatatg aaggaaatct ctatggaacc aaaattgatt ctattcttga ggttgtccaa
1740
actggacgga cttgcattct ggatgtcaac ccacaagcac tgaaagtatt gaggacatca
1800
gagtttatgc cctatgtggt atttattgcg gctccggagc tagagacgtt acgtgccatg
1860
cacaaggctg tggtggatgc aggaatcact accaagcttc tgaccgactc tgacttgaag
1920
aaaacagtgg atgaaagtgc acggattcag agagcataca accactattt tgatttgatc
1980
atcataaatg ataatctaga caaagccttt gaaaaactgc aaactgccat agagaaactg
2040
agaatggaac cacagtgggt cccaatcagc tgggtttact gatgattcag taaggttaac
2100
aatgaaaatt aaactcttaa aaagtgactg caacaaataa accttctact gagaaaatac
2160
atcacagata gaagattatc tgctaagtcc aggcattttt atggtgtaga ttgaaataat
2220
agtacacttc tgaattttta tataaaatgt ggttggaagg tgtactaata tataatttat
2280
cttaattttt ctaactttgt atggataatc tttctattca tatcacataa agaaatgcgt
2340
tgaagcaaaa aaaaaaaaa aaaaaa
2366
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<210> 5228
<211> 550
<212> PRT
<213> Homo sapiens

<400> 5228
Arg Leu Gly Val Val Glu Ile Gly Arg Ile Pro Gly Gly Ile Trp Glu
1               5                   10                  15
Asn Leu Thr Glu Leu Pro Ser Ser Thr Gly Ala Glu Glu Ile Asp Leu
            20                  25                  30
Ile Phe Leu Lys Gly Ile Met Glu Asn Pro Ile Val Lys Ser Leu Ala
```

```
              35                    40                    45
Lys Ala Arg Glu Arg Leu Glu Asp Ser Lys Leu Glu Ala Val Ser Asp
    50                    55                    60
Asn Asn Leu Glu Leu Val Asn Glu Ile Leu Glu Asp Ile Thr Pro Leu
65                    70                    75                    80
Ile Asn Val Asp Glu Asn Val Ala Glu Leu Val Gly Ile Leu Lys Glu
                  85                    90                    95
Pro His Phe Gln Ser Leu Leu Glu Ala His Asp Ile Val Ala Ser Lys
                  100                   105                   110
Cys Tyr Asp Ser Pro Pro Ser Ser Pro Glu Met Asn Asn Ser Ser Ile
        115                   120                   125
Asn Asn Gln Leu Leu Pro Val Asp Ala Ile Arg Ile Leu Gly Ile His
        130                   135                   140
Lys Arg Ala Gly Glu Pro Leu Gly Val Thr Phe Arg Val Glu Asn Asn
145                   150                   155                   160
Asp Leu Val Ile Ala Arg Ile Leu His Gly Gly Met Ile Asp Arg Gln
                  165                   170                   175
Gly Leu Leu His Val Gly Asp Ile Ile Lys Glu Val Asn Gly His Glu
                  180                   185                   190
Val Gly Asn Asn Pro Lys Glu Leu Gln Glu Leu Leu Lys Asn Ile Ser
        195                   200                   205
Gly Ser Val Thr Leu Lys Ile Leu Pro Ser Tyr Arg Asp Thr Ile Thr
210                   215                   220
Pro Gln Gln Val Phe Val Lys Cys His Phe Asp Tyr Asn Pro Tyr Asn
225                   230                   235                   240
Asp Asn Leu Ile Pro Cys Lys Glu Ala Gly Leu Lys Phe Ser Lys Gly
                  245                   250                   255
Glu Ile Leu Gln Ile Val Asn Arg Glu Asp Pro Asn Trp Trp Gln Ala
        260                   265                   270
Ser His Val Lys Glu Gly Gly Ser Ala Gly Leu Ile Pro Ser Gln Phe
        275                   280                   285
Leu Glu Glu Lys Arg Lys Ala Phe Val Arg Arg Asp Trp Asp Asn Ser
        290                   295                   300
Gly Pro Phe Cys Gly Thr Ile Ser Ser Lys Lys Lys Lys Lys Met Met
305                   310                   315                   320
Tyr Leu Thr Thr Arg Asn Ala Glu Phe Asp Arg His Glu Ile Gln Ile
                  325                   330                   335
Tyr Glu Glu Val Ala Lys Met Pro Pro Phe Gln Arg Lys Thr Leu Val
                  340                   345                   350
Leu Ile Gly Ala Gln Gly Val Gly Arg Arg Ser Leu Lys Asn Arg Phe
        355                   360                   365
Ile Val Leu Asn Pro Thr Arg Phe Gly Thr Thr Val Pro Phe Thr Ser
370                   375                   380
Arg Lys Pro Arg Glu Asp Glu Lys Asp Gly Gln Ala Tyr Lys Phe Val
385                   390                   395                   400
Ser Arg Ser Glu Met Glu Ala Asp Ile Lys Ala Gly Lys Tyr Leu Glu
                  405                   410                   415
His Gly Glu Tyr Glu Gly Asn Leu Tyr Gly Thr Lys Ile Asp Ser Ile
                  420                   425                   430
Leu Glu Val Val Gln Thr Gly Arg Thr Cys Ile Leu Asp Val Asn Pro
        435                   440                   445
Gln Ala Leu Lys Val Leu Arg Thr Ser Glu Phe Met Pro Tyr Val Val
450                   455                   460
Phe Ile Ala Ala Pro Glu Leu Glu Thr Leu Arg Ala Met His Lys Ala
```

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465                   470                   475                   480
Val Val Asp Ala Gly Ile Thr Thr Lys Leu Leu Thr Asp Ser Asp Leu
                485                   490                   495
Lys Lys Thr Val Asp Glu Ser Ala Arg Ile Gln Arg Ala Tyr Asn His
            500                   505                   510
Tyr Phe Asp Leu Ile Ile Ile Asn Asp Asn Leu Asp Lys Ala Phe Glu
        515                   520                   525
Lys Leu Gln Thr Ala Ile Glu Lys Leu Arg Met Glu Pro Gln Trp Val
        530                   535                   540
Pro Ile Ser Trp Val Tyr
545                   550


<210> 5229
<211> 1031
<212> DNA
<213> Homo sapiens


<400> 5229
acgcgtgtgc tgtggttaca tccgtggaac agacagacag cagctgcccc tgcaaatgtc
60
agcgccagcc cagtcaaaag agcttgaaac ctaccaagcc ggaggactgt gctgtgcctc
120
tctcgcccac attttcccca agcactctca ggaacctggc aacagtgtcc ccttgtggcc
180
aagcctggaa catcacatct gtacgttgca atctgtggat cagctacgag actgagagaa
240
aggaatgaaa ggatggaaga attacaagat caggcactgc tgtctgtctg ttccacggat
300
gtaaccacag cacacgcgtg gctcacggta ctagtgtgat aaatgcttgt tacatgaagg
360
cgtgaacagg gatgagaaga gacttcctgg agaaacaaaa ggactaacaa tcaggaaggg
420
gaggtgatcg gggcaggagt aaagtggaca cctcagcaaa gccattcgct gtgatctctg
480
attgtgcagt gtcatgtcct gtcaccagag ccccctcgtg tttgatgttg gccaatgccg
540
ccagcatgat ctagcaggcc aaatcctaat ctaccattct ctgacaccag ctggtcccct
600
ggggtcgtcc acccgatgtc ccccattctc cccacttggc ctcccccaca ggctctcggc
660
aaaggaccgt gggaggcacc tgtgacactg cccttttcct gtgcagctgt ttttcttctt
720
cattctttтc actcctcgtt actctttttt ttttcactct cagcccacac aaaactagga
780
actttgttat tctacttatt tttctgtact ctgtctgttt gcacacagat ggatatctga
840
gagccagcga actttcttta cctcctagta tcatttcatg aaaattagta gcacctgcac
900
aatggggcct tggagacagg aataaaagga aaatctgga atggaatcac atgacgcaac
960
aggctatgaa gactccctgc ccggctgcta tatgtctggt aaacagaata aatagtactt
1020
gagcatccct g
1031
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<210> 5230
<211> 102
<212> PRT
<213> Homo sapiens

<400> 5230
Met Ile Leu Gly Gly Lys Glu Ser Ser Leu Ala Leu Arg Tyr Pro Ser
1   5   10   15
Val Cys Lys Gln Thr Glu Tyr Arg Lys Ile Ser Arg Ile Thr Lys Phe
            20   25   30
Leu Val Leu Cys Gly Leu Arg Val Lys Lys Lys Arg Val Thr Arg Ser
        35   40   45
Glu Lys Asn Glu Glu Glu Lys Gln Leu His Arg Lys Arg Ala Val Ser
    50   55   60
Gln Val Pro Pro Thr Val Leu Cys Arg Glu Pro Val Gly Glu Ala Lys
65   70   75   80
Trp Gly Glu Trp Gly Thr Ser Gly Gly Arg Pro Gln Gly Thr Ser Trp
                85   90   95
Cys Gln Arg Met Val Asp
                100

<210> 5231
<211> 845
<212> DNA
<213> Homo sapiens

<400> 5231
tccggatctt ggagggtaca gagggcgccc ctcggcctcc tccctttcgg aggtggggac
60
aaggtggagg aagggctgca ggaggaggag ctctagcatc gcgacccgcc ccgtcccgtc
120
cagtctggcc tgggcgccgc gggaacgctg tcctggctgc cgccacccga acagcctgtc
180
ctggtgcccc ggctccctgc cccgcgccca gtcatgaccc tgcgcccctc actcctcccg
240
ctccatctgc tgctgctgct gctgctcagt gcggcggtgt gccgggctga ggctgggctc
300
gaaaccgaaa gtcccgtccg gaccctccaa gtggagaccc tggtggagcc cccagaacca
360
tgtgccgagc ccgctgcttt tggagacacg cttcacatac actacacggg aagcttggta
420
gatggacgta ttattgacac ctccctgacc agagaccctc tggttataga acttggccaa
480
aagcaggtga ttccaggtct ggagcagagt cttctcgaca tgtgtgtggg agagaagcga
540
agggcaatca ttccttctca cttggcctat ggaaaacggg gatttccacc atctgtccca
600
gcggatgcag tggtgcagta tgacgtggag ctgattgcac taatccgagc caactactgg
660
ctaaagctgg tgaagggcat tttgcctctg gtagggatgg ccatggtgcc agccctcctg
720
ggcctcattg ggtatcacct atacagaaag gccaatagac ccaaagtctc caaaaagaag
780

ctcaaggaag agaaacgaaa caagagcaaa aagaaataat aaataataaa ttttaaaaaa
840
cttaa
845

<210> 5232
<211> 201
<212> PRT
<213> Homo sapiens

<400> 5232
Met Thr Leu Arg Pro Ser Leu Leu Pro Leu His Leu Leu Leu Leu Leu
 1   5   10   15
Leu Leu Ser Ala Ala Val Cys Arg Ala Glu Ala Gly Leu Glu Thr Glu
            20   25   30
Ser Pro Val Arg Thr Leu Gln Val Glu Thr Leu Val Glu Pro Pro Glu
        35   40   45
Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu His Ile His Tyr
    50   55   60
Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp Thr Ser Leu Thr Arg
65   70   75   80
Asp Pro Leu Val Ile Glu Leu Gly Gln Lys Gln Val Ile Pro Gly Leu
                85   90   95
Glu Gln Ser Leu Leu Asp Met Cys Val Gly Glu Lys Arg Arg Ala Ile
            100   105   110
Ile Pro Ser His Leu Ala Tyr Gly Lys Arg Gly Phe Pro Pro Ser Val
        115   120   125
Pro Ala Asp Ala Val Val Gln Tyr Asp Val Glu Leu Ile Ala Leu Ile
    130   135   140
Arg Ala Asn Tyr Trp Leu Lys Leu Val Lys Gly Ile Leu Pro Leu Val
145   150   155   160
Gly Met Ala Met Val Pro Ala Leu Leu Gly Leu Ile Gly Tyr His Leu
                165   170   175
Tyr Arg Lys Ala Asn Arg Pro Lys Val Ser Lys Lys Lys Leu Lys Glu
            180   185   190
Glu Lys Arg Asn Lys Ser Lys Lys Lys
        195   200

<210> 5233
<211> 2801
<212> DNA
<213> Homo sapiens

<400> 5233
agatctcaat tcacacatga ctacctttga gctaatgact gtctccagaa aataactgtg
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ccccaagaag tgctccagat ttgcaaggaa tagccccaag agaataccaa gacaagcagg
120
ctgttccctg gaaaaaatct aatgcaagga gggctagttc acagcaaatt cactgcctcc
180
tcccatgcac gtggtagaga gtaccagtat caacatggcc ctgttttctg ctaaaaccag
240
attttgagga atcagagacc cccaacacta ctcactcagt agctagcagc cccttccttt
300

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caactgggag tgttattaga atgaaaagta attagttaga agggcataca tctcagtggc
360
atgagcattg tggaatatcc tttcctaggc acatttgtcc actaagggaa cagcctcaga
420
aactggtaca gcaatgggtg agatgagatc ctggagagag aacacagcca tcccctatag
480
aaaggcacag cttttgggct tctctggcct gaatgccttc tggggtattt ccatatgcaa
540
cagcccagag tcatagcctt gggcaaccac acatagaggt ttccttctca cttcagacac
600
atacatcact ttcacaccac ttggggatgg aaatacctac aagagtgaag gtcaagggcc
660
ctccccaggc atctcattca ttactcagct tccttcctga ccaagtctgc caaccaatgg
720
ccagctatgc gcctcatcct cattgcttct gcctccacgt aaatgaaacc aaaggcctca
780
gcatatcctg ggaggactgg gggctgttac ctaatggtcc tctctgtccc attataggtg
840
caaggcaccc catccacaca tttgcaccac tactccaaga tagtattttt cttttcacac
900
aatctcttta cagcagaatc cagagttggg ttgtagttta ccttcctgga aagctcatta
960
tctttgtttg aattaacatt tcagcatgga actaactggg cggaggaagg atcgttatac
1020
gtcttcagaa agttctcatt gccccagctg cctagtacta tacaagaagc tctactttga
1080
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1140
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1200
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1260
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1320
gccaccagga tagttagcag aaatattgtc tgtaaagcta ggcagatgag cccagaagaa
1380
tggtcccaga gaaagcagac tggctccaat agatatcagg cagcaatccc aataaattct
1440
gacatgtcct tggcaatgga agcctgggtt ggagatcctg aggcagctgt gcctactgtt
1500
ccccacctca gaagcttcct gcccagagag ccagcagcct tgggatacta atgaggatgc
1560
aactggctta ttggtatgaa atagaaggtg gctttgtagg ggcaagcagg caaagagtac
1620
tatccacatg gcaggcaggt ggctttgtgt ctggaaagct ttgcctagcc agtacagctg
1680
tgagcagagg ctggttataa atttgaactc cctcagccca tttgcaactc tgcctctgtt
1740
cccttgcatt ctgtttggtt gccctttagt ttcctagtaa atgctccttt tgaaaaactc
1800
caaccttgtc ttatttaact tggggaagg ggattctcca atgtcttttc caggataaag
1860
aaggaaatta aaataccatg aaaaaatgga catggcagta gaaaggaaac attctgatca
1920
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gaccttggga aaagctggtg ccgagagagg gagaggccag gtgtcccccc acccaactgg
1980
cactgattct cagccccttc ctcttacttc tgttggcttc aaggagacct gcccttgatg
2040
tgtgttgctg ctgaagcacc ctcccagcca gtgagttgga catatgcagc aggcactttg
2100
atgtccagga agtacactgg tacatgacag gagcaagggt cagggagggg aggggaaagg
2160
tttctacaat gcagatgttt tcaaaattct ccaacaatca tgactctaaa tggtatgatt
2220
tagggctggg tgcagtgact cacacctgta atctcagcac tttgggaggc caaggcggga
2280
ggatcacttg ataccagaag ttcaagacca gtctggcaac gtggagagac caccatcatt
2340
tcaaaagaga cccccccgcc ccccggcta attttttaaaa aattagcagt acctgtagtc
2400
ccagctactt aggaagctga gataggagaa tcgcctgagt ccaagagctt gaggctacag
2460
cgagccaaga ttgcaacact gcatttcagc ctgggtgaca gagcaaggcc ctgtctctct
2520
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2580
tgatgagaag aaaataatta tttattttac acttgagtca gggagactga caaaggatag
2640
gtatggaaaa tggcttgcta ttttcatggc caccctgtcc tgcaatgcgg ggggtgggag
2700
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2760
agaaatatat tgtctctcat gaaaaaaaaa aaaaaaaaaa a
2801


<210> 5234
<211> 57
<212> PRT
<213> Homo sapiens


<400> 5234
Leu Thr Pro Val Ile Ser Ala Leu Trp Glu Ala Lys Ala Gly Gly Ser
1               5                   10                  15
Leu Asp Thr Arg Ser Ser Arg Pro Val Trp Gln Arg Gly Glu Thr Thr
            20                  25                  30
Ile Ile Ser Lys Glu Thr Pro Pro Pro Arg Leu Ile Phe Lys Lys
            35                  40                  45
Leu Ala Val Pro Val Val Pro Ala Thr
        50                  55


<210> 5235
<211> 3017
<212> DNA
<213> Homo sapiens


<400> 5235
nncggccggg aaagtaacca gaagcttcag gaagagatta taaagacttt ggaacacttg
60
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120
tctcagacta agactgctgt ccctccgttg agtgaaggag atgggtattc tagtgagaat
180
acatcgcgtg ctcatacacc actcaacaca cctgatcctt ccaccaagct gagcacagaa
240
gctgacacag acactcccaa gaaactaatg tttcgcagac tgaaaattat aagtgaaaat
300
agcatggaca gtgcaatctc tgatgcaacc agtgagctag aaggcaagga tggcaaagag
360
gatcttgatc aattagaaaa tgtccctgta gaggaagagg aagaattgca gtcacaacag
420
ctactcccac aacagctgcc tgaatgcaaa gttgatagtg aaaccaacat agaagctagt
480
aagctaccta catctgaacc agaagctgac gctgaaatag agcccaaaga gagcaacggc
540
acaaaactag aagaacctat taatgaagaa acaccatccc aagatgaaga ggagggtgtg
600
tctgatgtgg agagtgaaag gagccaagaa cagccagata aaacagtgga tataagtgat
660
ttggccacca aactcctgga cagttggaaa gacctaaagg aggtatatcg aattccaaag
720
aaaagtcaaa ctgaaaagga aaacacaaca actgaacgag gaagggatgc tgttggcttc
780
agagatcaaa cacctgcccc gaagactcct aataggtcaa gagagagaga cccagacaag
840
caaactcaaa ataaagagaa aaggaaacga agaagctccc tctcaccacc ctcttctgcc
900
tatgagcggg gaacaaaaag gccagatgac agatatgata caccaacttc taaaaagaaa
960
gtacgaatta aagaccgcaa taaactttct acagaggaac gccggaagtt gtttgagcaa
1020
gaggtggctc aacgggaggc tcagaaacaa cagcaacaga tgcagaacct gggaatgaca
1080
tcaccactgc cctatgactc tcttggttat aatgccccgc atcatccctt tgctggttac
1140
ccaccaggtt atcccatgca ggcctatgtg atcccagca accctaatgc tggaaaggtg
1200
ctcctgccca cacccagcat ggaccccagtg tgttctcctg ctccttatga tcatgctcag
1260
cccttggtgg acattctac agaaccccctt tctgcccctc caccagtacc agtggtgcca
1320
catgtggcag ctcctgtgga agtttccagt tcccagtatg tggcccagag tgatggtgta
1380
gtacaccaag actccagcgt tgctgtcttg ccagtgccgg ccccggccc agttcaggga
1440
cagaattata gtgtttggga ttcaaaccaa cagtctgtca gtgtacagca gcagtactct
1500
cctgcacagt ctcaagcaac catatattat caaggacaga catgtccaac agtctatggt
1560
gtgacatcac cttattcaca gacaactcca ccaattgtac agagttatgc ccagccaagt
1620
cttcagtata tccagggcaa acagattttc acagctcatc cacaaggagt ggtggtacag
1680
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ccagccgcag  cagtgactac  aatagttgca  ccagggcagc  ctcagccctt  gcagccatct
1740
gaaatggttg  tgacaaataa  tctcttggat  ctgccgcccc  cctctcctcc  caaaccaaaa
1800
accattgtct  tacctcccaa  ctggaagaca  gctcgagatc  cagaagggaa  gatttattac
1860
taccatgtga  tcacaaggca  gactcagtgg  gatcctccta  cttgggaaag  cccaggagat
1920
gatgccagcc  ttgagcatga  agctgagatg  gacctgggaa  ctccaacata  tgatgaaaac
1980
cccatgaagg  cctcgaaaaa  gcccaagaca  gcagaagcag  acacctccag  tgaactagca
2040
aagaaaagca  aagaagtatt  cagaaaagag  atgtcccagt  tcatcgtcca  gtgcctgaac
2100
ccttaccgga  aacctgactg  caaagtggga  agaattacca  caactgaaga  ctttaaacat
2160
ctggctcgca  agctgactca  cggtgttatg  aataaggagc  tgaagtactg  taagaatcct
2220
gaggacctgg  agtgcaatga  gaatgtgaaa  cacaaaacca  aggagtacat  taagaagtac
2280
atgcagaagt  ttgggggctgt  ttacaaaccc  aaagaggaca  ctgaattaga  atgactgttg
2340
ggccagggtg  ggaggatggg  tggtcaggta  ggacagactc  tagggagagg  aaatcctgtg
2400
ggcctttctg  tcccacccct  gtcagcactg  tgctactgat  gatacatcac  cctggggaat
2460
tcaaccctgc  agatgtcaac  tgaaggccac  aaaaatgaac  tccatctaca  agtgattacc
2520
tagttgtgag  ctgttggcat  gtggttagaa  gccatcagag  gtgcaagggc  ttagaaaaga
2580
acctggccag  acctgactcc  actcttaaac  ctgggtcttc  tccttggcgg  tgctgtcagc
2640
gcacagaccc  atgcgcatcc  ccacccacaa  cccctttaccc  tgatgatctg  tattatattt
2700
taatgtatat  gtgaatatat  tgaaaataat  ttgttttttc  ctggttttttg  tttggttttc
2760
gttttgcttt  tagcctctac  atgctaggat  cacaggaaga  ctttgtaagg  acagtttaag
2820
ttctcctgca  aggtttaatt  tgttatcatg  taaatattcc  aaagcaggct  gccttgtggt
2880
tttggccagc  cttgtgctat  gttgataaga  ttgatttact  gcttaaaatc  actttacttt
2940
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3000
aaaaaaaaaa  aaaaaaa
3017


<210> 5236
<211> 178
<212> PRT
<213> Homo sapiens

<400> 5236
Lys Thr Ile Val Leu Pro Pro Asn Trp Lys Thr Ala Arg Asp Pro Glu
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 1                    5                       10                      15
Gly Lys Ile Tyr Tyr Tyr His Val Ile Thr Arg Gln Thr Gln Trp Asp
                20                  25                  30
Pro Pro Thr Trp Glu Ser Pro Gly Asp Asp Ala Ser Leu Glu His Glu
            35                  40                  45
Ala Glu Met Asp Leu Gly Thr Pro Thr Tyr Asp Glu Asn Pro Met Lys
        50                  55                  60
Ala Ser Lys Lys Pro Lys Thr Ala Glu Ala Asp Thr Ser Ser Glu Leu
65                  70                  75                      80
Ala Lys Lys Ser Lys Glu Val Phe Arg Lys Glu Met Ser Gln Phe Ile
                85                  90                  95
Val Gln Cys Leu Asn Pro Tyr Arg Lys Pro Asp Cys Lys Val Gly Arg
            100                 105                 110
Ile Thr Thr Thr Glu Asp Phe Lys His Leu Ala Arg Lys Leu Thr His
        115                 120                 125
Gly Val Met Asn Lys Glu Leu Lys Tyr Cys Lys Asn Pro Glu Asp Leu
    130                 135                 140
Glu Cys Asn Glu Asn Val Lys His Lys Thr Lys Glu Tyr Ile Lys Lys
145                 150                 155                     160
Tyr Met Gln Lys Phe Gly Ala Val Tyr Lys Pro Lys Glu Asp Thr Glu
                165                 170                 175
Leu Glu
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<210> 5237
<211> 1238
<212> DNA
<213> Homo sapiens

<400> 5237
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ntagaagaca aggcgtcgtt tgaataactt gcctgatttt tcttcctacc gagtagcatt
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120
gttgatgtgt tattgttagg tatttatatc attcacaggg ctgtcagaaa tcccgatgat
180
cttgaagcaa ggtctcatat gcacttggca agtgcttttg ctggcatcgg ctttggaaat
240
gctggtgttc atctgtgcca tggaatgtct tacccaattt caggtttagt gaagatgtat
300
aaagcaaagg attacaatgt ggatcaccca ctggtgcccc atggcctttc tgtggtgctc
360
acgtccccag cggtgttcac tttcacggcc cagatgtttc cagagcgaca cctggagatg
420
gcagaaatac tgggagccga cacccgcact gccaggatcc aagatgcagg gctggtgttg
480
gcagacacgc tccggaaatt cttattcgat ctggatgttg atgatggcct agcagctgtt
540
ggttactcca aagctgatat ccccgcacta gtgaaaggaa cgctgcccca ggaaagggtc
600
accaagcttg cacccgtcc ccagtcagaa gaggatctgg ctgctctgtt tgaagcttca
660
atgaaactgt attaattgtc attttaactg aaagaattac cgctggccat tgtagtgctg
720
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agagcaagag ctgatctagc tagggctttg tcttttcatc tttgtgcata acttacctgt
780
taccagtata ggtgggatat acatttatct tgcaggaaat tccccaaagc tcagagtcca
840
gttccttcca taaaacaggc tggacaaatg accactatgt tagaccccca ggctcgactt
900
caggggtcag tgttcctgtc ccaaacccca cacagaatac tctgcctctg cttcatgtag
960
caaatgagca aaaactcagt atctatcaaa agtgtaaatt atatttccta tgcctagtaa
1020
ttcacttcat gtctaaaaat ttatctgata gaaacactag caccagtaca tacagaagca
1080
tggcaaggat gtttctggca gcactttct aataataaaa gatttgaaac aaccttaagt
1140
attcattatt ggtatataga tcacttatag tatactagac agtggaatac tatggtactg
1200
ttaataaaga tgaagtaaat ctcttggaaa aaaaaaaa
1238

<210> 5238
<211> 212
<212> PRT
<213> Homo sapiens

<400> 5238
Phe Phe Phe Leu Pro Ser Ser Ile Ser Phe Phe Phe Thr Ile Ser Phe
1   5   10   15
Pro Lys Ala Ala Pro Tyr Ser Val Gly Ile Ala Asn Val Asp Val Leu
            20   25   30
Leu Leu Gly Ile Tyr Ile Ile His Arg Ala Val Arg Asn Pro Asp Asp
        35   40   45
Leu Glu Ala Arg Ser His Met His Leu Ala Ser Ala Phe Ala Gly Ile
    50   55   60
Gly Phe Gly Asn Ala Gly Val His Leu Cys His Gly Met Ser Tyr Pro
65   70   75   80
Ile Ser Gly Leu Val Lys Met Tyr Lys Ala Lys Asp Tyr Asn Val Asp
                85   90   95
His Pro Leu Val Pro His Gly Leu Ser Val Val Leu Thr Ser Pro Ala
            100   105   110
Val Phe Thr Phe Thr Ala Gln Met Phe Pro Glu Arg His Leu Glu Met
            115   120   125
Ala Glu Ile Leu Gly Ala Asp Thr Arg Thr Ala Arg Ile Gln Asp Ala
        130   135   140
Gly Leu Val Leu Ala Asp Thr Leu Arg Lys Phe Leu Phe Asp Leu Asp
145   150   155   160
Val Asp Asp Gly Leu Ala Ala Val Gly Tyr Ser Lys Ala Asp Ile Pro
                165   170   175
Ala Leu Val Lys Gly Thr Leu Pro Gln Glu Arg Val Thr Lys Leu Ala
            180   185   190
Pro Arg Pro Gln Ser Glu Glu Asp Leu Ala Ala Leu Phe Glu Ala Ser
        195   200   205
Met Lys Leu Tyr
        210

4417

<210> 5239
<211> 2061
<212> DNA
<213> Homo sapiens

<400> 5239
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120
taaaaacaaa agaggtgagt gagaatcgtc acctttctgc tttccttcct cacttggcca
180
ggctctagta ctccaccttt gagctgccat gcccaatagg ggaagtccaa aattaaaaat
240
acaaccggtg tagaagaaaa taaatgggga gtgaaataga agaaagatg agggaggggga
300
gtgctaatat ttacactaga gttttataga caactgtccc attccatccc aattccaatc
360
ctgacccaga aagtgatggt ggcaggtcca agagacagag attatgtgtc gggacacaga
420
cagcctccca tccccaaccg taatggattc aatttcaagt ccacagagtg gggaggaagg
480
ataggtgggg aaagtgagac actcattttc aaacaagtct cccttgagaa ttcctgcctt
540
gaagtgcaga cagtatccaa gctccagggg ataggctgag accctgagg ctcagttccc
600
aaatcatgtt gtcatttgga agttccaggc taaagttggt gccatcaggg ctctccagat
660
ttgggaggcc cccctaaccg ccgggcctct ggcctcagtt ccttgcattt ctggcaataa
720
aagaagtcgg ggacgttggt cttcttaatc ttagcacagg agaggtggat ccacgtccca
780
cacaggctgc actcaatcat gggccgccct gcaaagggct ttcgacagta acatgtgatc
840
agatcccatg agtcatcacc tgattctacc atgatgtcct cgtccatgac ccgcatctcg
900
ccttcactgg agctggcatc tccatcttgg cttgtttcag tgctgcccac ctccttgctt
960
tcactgtcag caggagggac tccttcaggg tgcactgtgg caggggggcct aggagcctca
1020
gggggtgttg gcagcacagg gactggggct tcaccccccta ccactgttgc catctcttct
1080
tcttcttcct cttcctcctc ttcctcctcc tcttcagagt ctgtatcact ggggggtgcc
1140
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1200
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1260
agcaccccaa agccagcccc agctcctggc cccaactttc ggttctttcg gtccttcttt
1320
cgaggaggat gggagaggtc cccctgggaa aggggcacgg gggtaagagc agcaggggggc
1380
cgggaggtat gtgtcaggga tgtgggggac aaaggagatg ccactttggg cccatccaga
1440

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tcaaagagag agtccttgag cttcatcttc tcaagcaagg tagcactgtc gggggcctgc
1500
agacgagaga aagtggacct tgggggtcct ggctgggtgg gacctgcttg agctgccctt
1560
ctcttggatg actttgcttt cttaacaaaa gtctggatgg ttcgaagatc tgaggggggcc
1620
gagtcccagc catcactgtc ggccgcactc tctcctcgca atggagagct ggagccagag
1680
gctggccagt cactttcctc tttgctaggg ggaatgtaac cagcatatgc caaaacaaaa
1740
ctgcagaatt tgttgaaatc ctcaattgtt ctccgccgtt tctctggtgg ctgagtctct
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1860
ccctcccctc ctcccggtcc ggcgcccccc tccccggagc cggggatccc ggtgccgcct
1920
ctagtgctcg atgctcccac tgcttcgctc cacagaagtg tccgcctcag cccggttgag
1980
actcgagtcc gctagccgct gccgccacct ccctctacca ctgcctcccg cactcccgga
2040
ccgggccccc tcccccgcg g
2061
```

```
<210> 5240
<211> 226
<212> PRT
<213> Homo sapiens
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<400> 5240
Met Met Ser Ser Ser Met Thr Arg Ile Ser Pro Ser Leu Glu Leu Ala
1               5                  10                 15
Ser Pro Ser Trp Leu Val Ser Val Leu Pro Thr Ser Leu Leu Ser Leu
            20                  25                  30
Ser Ala Gly Gly Thr Pro Ser Gly Cys Thr Val Ala Gly Gly Leu Gly
            35                  40                  45
Ala Ser Gly Gly Val Gly Ser Thr Gly Thr Gly Ala Ser Pro Pro Thr
        50                  55                  60
Thr Val Ala Ile Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser
65                  70                  75                  80
Ser Ser Glu Ser Val Ser Leu Gly Gly Ala Trp Gly Gly Pro Gly Gly
                85                  90                  95
Gly Ser Leu Ser Pro Arg Ser Ala Phe Phe Asn Phe Arg Phe Leu Leu
                100                 105                 110
Phe Leu Ile Arg Asp Leu Phe Ser Pro Ser Pro Gly Val Gly Arg Gly
                115                 120                 125
Leu Arg Ser Thr Pro Lys Pro Ala Pro Ala Pro Gly Pro Asn Phe Arg
        130                 135                 140
Phe Phe Arg Ser Phe Phe Arg Gly Gly Trp Glu Arg Ser Pro Trp Glu
145                 150                 155                 160
Arg Gly Thr Gly Val Arg Ala Ala Gly Gly Arg Glu Val Cys Val Arg
                165                 170                 175
Asp Val Gly Asp Lys Gly Asp Ala Thr Leu Gly Pro Ser Arg Ser Lys
                180                 185                 190
Arg Glu Ser Leu Ser Phe Ile Phe Ser Ser Lys Val Ala Leu Ser Gly
```

```
            195                   200                   205
Ala Cys Arg Arg Glu Lys Val Asp Leu Gly Gly Pro Gly Trp Val Gly
    210                   215                   220
Pro Ala
225


<210> 5241
<211> 461
<212> DNA
<213> Homo sapiens

<400> 5241
gcggcccccg atttgcagcc catggatgca tttatcacgt ttgttcctct gcgtgcctcc
60
ccctcaatat gccggggggtg tacccatttc caagggatga cagcagggcc ccacagcgag
120
ccccaggctg atccggagcc ctcttcatcc ccgtccaggg ccgtttgcac tgctcccggc
180
atcggcacac cttgttctgg ttgtgctggg acggcagcgc cccgtgaggt cagagggttg
240
ctgtcacatc tgccacccag tgtggtctcc tggagatttc agtggttcgg tgcttcgctt
300
ctcacctggc cagctctgag ttcagcctct cgcctgtggg gacccctgca tcctggcggc
360
agaaggagga ggaagaagcc accagaggtt gccaggaacc cagtggcagg ggaggtgggg
420
ctgagccagg cccgcccgct gtgccgggag ttcccacgcg g
461


<210> 5242
<211> 146
<212> PRT
<213> Homo sapiens

<400> 5242
Met Asp Ala Phe Ile Thr Phe Val Pro Leu Arg Ala Ser Pro Ser Ile
1               5                   10                  15
Cys Arg Gly Cys Thr His Phe Gln Gly Met Thr Ala Gly Pro His Ser
            20                  25                  30
Glu Pro Gln Ala Asp Pro Glu Pro Ser Ser Ser Pro Ser Arg Ala Val
        35                  40                  45
Cys Thr Ala Pro Gly Ile Gly Thr Pro Cys Ser Gly Cys Ala Gly Thr
    50                  55                  60
Ala Ala Pro Arg Glu Val Arg Gly Leu Leu Ser His Leu Pro Pro Ser
65                  70                  75                  80
Val Val Ser Trp Arg Phe Gln Trp Phe Gly Ala Ser Leu Leu Thr Trp
                85                  90                  95
Pro Ala Leu Ser Ser Ala Ser Arg Leu Trp Gly Pro Leu His Pro Gly
            100                 105                 110
Gly Arg Arg Arg Arg Lys Lys Pro Pro Glu Val Ala Arg Asn Pro Val
        115                 120                 125
Ala Gly Glu Val Gly Leu Ser Gln Ala Arg Pro Leu Cys Arg Glu Phe
    130                 135                 140
Pro Arg
```

145

<210> 5243
<211> 344
<212> DNA
<213> Homo sapiens

<400> 5243
ngaattcctt gcattctctt ctgggccaaa agaataatga ttaaatttaa gaatcaaacc
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tggctggacc ttacagacga gccatttggt cagaaggtaa ctgtggaccc tgacaactca
120
aattgcagtg aagaaagtgc taggttgtct ttgaagcttg gtgatgctgg aaacccccaga
180
agtcttgcta taagattcat ccttaccaat tacaacaagt tgtccatcca gagttggttt
240
agtttgcgcc gagtcgagat catttccaac aattcaatcc aagcagtctt taacccaact
300
ggcgtatatg ctccctctgg ttactcctac cgctgccaac gcgt
344

<210> 5244
<211> 114
<212> PRT
<213> Homo sapiens

<400> 5244
Xaa Ile Pro Cys Ile Leu Phe Trp Ala Lys Arg Ile Met Ile Lys Phe
1   5   10   15
Lys Asn Gln Thr Trp Leu Asp Leu Thr Asp Glu Pro Phe Gly Gln Lys
            20   25   30
Val Thr Val Asp Pro Asp Asn Ser Asn Cys Ser Glu Glu Ser Ala Arg
        35   40   45
Leu Ser Leu Lys Leu Gly Asp Ala Gly Asn Pro Arg Ser Leu Ala Ile
    50   55   60
Arg Phe Ile Leu Thr Asn Tyr Asn Lys Leu Ser Ile Gln Ser Trp Phe
65   70   75   80
Ser Leu Arg Arg Val Glu Ile Ile Ser Asn Asn Ser Ile Gln Ala Val
                85   90   95
Phe Asn Pro Thr Gly Val Tyr Ala Pro Ser Gly Tyr Ser Tyr Arg Cys
            100   105   110
Gln Arg

<210> 5245
<211> 483
<212> DNA
<213> Homo sapiens

<400> 5245
nngccatgga aacgaaagcg gccaagtaga gctccgtcct gacgcgccgc ctcccgtggg
60
ctccggccgg ctaagccgcg gcggacaact atgctgaaag ccaagatcct cttcgtgggg
120

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ccttgcgaga gtggaaaaac tgttttggcc aactttctga cagaatcttc tgacatcact
180
gaatacagcc caacccaagg agtgaggttt gagtcctgct ggccggccct gatgaaggat
240
gctcatggag tggtgatcgt cttcaatgct gacatcccaa gccaccggaa ggaaatggag
300
atgtggtatt cctgctttgt ccaacagccg tccttacagg acacacagtg tatgctaatt
360
gcacaccaca aaccaggctc tggagatgat aaaggaagcc tgtctttgtc gccacccttg
420
aacaagctga agctggtgca ctcaaacctg gaagatgacc ctgaggagat ccggatggaa
480
ttc
483


<210> 5246
<211> 131
<212> PRT
<213> Homo sapiens

<400> 5246
Met Leu Lys Ala Lys Ile Leu Phe Val Gly Pro Cys Glu Ser Gly Lys
1               5                   10                  15
Thr Val Leu Ala Asn Phe Leu Thr Glu Ser Ser Asp Ile Thr Glu Tyr
            20                  25                  30
Ser Pro Thr Gln Gly Val Arg Phe Glu Ser Cys Trp Pro Ala Leu Met
        35                  40                  45
Lys Asp Ala His Gly Val Val Ile Val Phe Asn Ala Asp Ile Pro Ser
    50                  55                  60
His Arg Lys Glu Met Glu Met Trp Tyr Ser Cys Phe Val Gln Gln Pro
65                  70                  75                  80
Ser Leu Gln Asp Thr Gln Cys Met Leu Ile Ala His His Lys Pro Gly
                85                  90                  95
Ser Gly Asp Asp Lys Gly Ser Leu Ser Leu Ser Pro Pro Leu Asn Lys
            100                 105                 110
Leu Lys Leu Val His Ser Asn Leu Glu Asp Asp Pro Glu Glu Ile Arg
        115                 120                 125
Met Glu Phe
        130


<210> 5247
<211> 1004
<212> DNA
<213> Homo sapiens

<400> 5247
nngccatgga aacgaaagcg gccaagtaga gctccgtcct gacgcgccgc ctcccgtggg
60
ctccggccgg ctaagccgcg gcggacaact atgctgaaag ccaagatcct cttcgtgggg
120
ccttgcgaga gtggaaaaac tgttttggcc aactttctga cagaatcttc tgacatcact
180
gaatacagcc caacccaagg agtgaggatc ctagaatttg agaacccgca tgttaccagc
240
```

aacaacaaag gcacgggctg tgaattcgag ctatgggact gtggtggcga tgctaagttt
300
gagtcctgct ggccggccct gatgaaggat gctcatggag tggtgatcgt cttcaatgct
360
gacatcccaa gccaccggaa ggaaatggag atgtggtatt cctgctttgt ccaacagccg
420
tccttacagg acacacagtg tatgctaatt gcacaccaca aaccaggctc tggagatgat
480
aaaggaagcc tgtctttgtc gccacccttg aacaagctga gctggtgca ctcaaacctg
540
gaagatgacc ctgaggagat ccggatggaa ttcataaagt atttaaaaag cataatcaac
600
tccatgtctg agagcagaga cagggaggag atgtcaatta tgacctagcc agccttcacc
660
tgggactgcc acatccccag tgaaatcagc atgtttctcg gtgcagatct gaaatcacat
720
ccagctcctg atgttttctt ctccctctga ctgcagagga agtgttccta cctgcaggaa
780
ggcacctgtc acacagggcg ttcactcaga ccatctgtgc tctgccctga gttcagttga
840
gaaatccta ttatcaaatt tggatttcct ggccccagaa cttcccaaag acctgtaaaa
900
tggagggatt taccacctca catatgtcca gttaaacagt ttgtggactt gtaaccgtcg
960
cagcccaatg atacaacagt agtttaatca cgtgaaaaaa aaaa
1004

<210> 5248
<211> 185
<212> PRT
<213> Homo sapiens

<400> 5248
Met Leu Lys Ala Lys Ile Leu Phe Val Gly Pro Cys Glu Ser Gly Lys
 1   5   10   ·   15
Thr Val Leu Ala Asn Phe Leu Thr Glu Ser Ser Asp Ile Thr Glu Tyr
            20   25   30
Ser Pro Thr Gln Gly Val Arg Ile Leu Glu Phe Glu Asn Pro His Val
            35   40   45
Thr Ser Asn Asn Lys Gly Thr Gly Cys Glu Phe Glu Leu Trp Asp Cys
        50   55   60
Gly Gly Asp Ala Lys Phe Glu Ser Cys Trp Pro Ala Leu Met Lys Asp
65   70   75   80
Ala His Gly Val Val Ile Val Phe Asn Ala Asp Ile Pro Ser His Arg
                85   90   95
Lys Glu Met Glu Met Trp Tyr Ser Cys Phe Val Gln Gln Pro Ser Leu
            100   105   110
Gln Asp Thr Gln Cys Met Leu Ile Ala His His Lys Pro Gly Ser Gly
            115   120   125
Asp Asp Lys Gly Ser Leu Ser Leu Ser Pro Pro Leu Asn Lys Leu Lys
            130   135   140
Leu Val His Ser Asn Leu Glu Asp Asp Pro Glu Glu Ile Arg Met Glu
145   150   155   160
Phe Ile Lys Tyr Leu Lys Ser Ile Ile Asn Ser Met Ser Glu Ser Arg

4423

```
                   165                    170                    175
Asp Arg Glu Glu Met Ser Ile Met Thr
           180                    185


<210> 5249
<211> 653
<212> DNA
<213> Homo sapiens


<400> 5249
nnacgcgtgc gcgccaccgg cccggcaggt gctgtcctta ttcccagccc agtcaagagc
60
taccgggggct ggctagtcat gggggagccc agtagagagg agtataaaat ccagtccttt
120
gatgcagaga cccagcagct gctgaagaca gcactcaaag atccgggtgc tgtggacttg
180
gagaaagtgg ccaatgtgat tgtggaccat tctctgcagg actgtgtgtt cagcaaggaa
240
gcaggacgca tgtgctacgc catcattcag gcagagagta aacaagcagg ccagagtgtc
300
ttccgacgtg gactcctcaa ccggctgcag caggagtacc aggctcggga gcagctgcga
360
gcacgctccc tgcagggctg ggtctgctat gtcacctta tctgcaacat ctttgactac
420
ctgagggtga caacatgcc catgatggcc ctggtgaacc ctgtctatga ctgcctcttc
480
cggctggccc agccagacag tttgagcaag gaggaggagg tggactgttt ggtgctgcag
540
ctgcaccggg ttggggagca gctggagaaa atgaatgggc agcgcatgga tgagctcttt
600
gtgctgatcc gggatggctt cctgctccca actggcctca gctccctggc cca
653


<210> 5250
<211> 217
<212> PRT
<213> Homo sapiens


<400> 5250
Xaa Arg Val Arg Ala Thr Gly Pro Ala Gly Ala Val Leu Ile Pro Ser
  1               5                  10                  15
Pro Val Lys Ser Tyr Arg Gly Trp Leu Val Met Gly Glu Pro Ser Arg
              20                  25                  30
Glu Glu Tyr Lys Ile Gln Ser Phe Asp Ala Glu Thr Gln Gln Leu Leu
          35                  40                  45
Lys Thr Ala Leu Lys Asp Pro Gly Ala Val Asp Leu Glu Lys Val Ala
      50                  55                  60
Asn Val Ile Val Asp His Ser Leu Gln Asp Cys Val Phe Ser Lys Glu
65                  70                  75                  80
Ala Gly Arg Met Cys Tyr Ala Ile Ile Gln Ala Glu Ser Lys Gln Ala
              85                  90                  95
Gly Gln Ser Val Phe Arg Arg Gly Leu Leu Asn Arg Leu Gln Gln Glu
             100                 105                 110
Tyr Gln Ala Arg Glu Gln Leu Arg Ala Arg Ser Leu Gln Gly Trp Val
```

```
                   115                 120                 125
Cys Tyr Val Thr Phe Ile Cys Asn Ile Phe Asp Tyr Leu Arg Val Asn
         130                 135                 140
Asn Met Pro Met Met Ala Leu Val Asn Pro Val Tyr Asp Cys Leu Phe
145                 150                 155                 160
Arg Leu Ala Gln Pro Asp Ser Leu Ser Lys Glu Glu Glu Val Asp Cys
                   165                 170                 175
Leu Val Leu Gln Leu His Arg Val Gly Glu Gln Leu Glu Lys Met Asn
             180                 185                 190
Gly Gln Arg Met Asp Glu Leu Phe Val Leu Ile Arg Asp Gly Phe Leu
         195                 200                 205
Leu Pro Thr Gly Leu Ser Ser Leu Ala
     210                 215
```

```
<210> 5251
<211> 372
<212> DNA
<213> Homo sapiens
```

```
<400> 5251
atgaacaggc gtgttatatc tgctaaccca tatctagggg gcacctccaa cggctatgcc
60
cacccagcg ggacggcact tcattatgac gatgtcccgt gcatcaacgg ctcgggggaa
120
ccggaagacg gctttcctgc tttctgcagc agaagcttgg gagaagaagg ggcttttgaa
180
aacccaggcc tgtacgataa ctggccgcct ccgcacatct ttgcccgcta ctctcctgct
240
gacagaaagg cctctaggct gtctgctgac aagctgtcct ctaaccatta caaataccct
300
gcctctgctc agtctgtcac taatacctct tctgtgggga gggcgtctct cgggctcaac
360
tcgcagcctc ag
372
```

```
<210> 5252
<211> 124
<212> PRT
<213> Homo sapiens
```

```
<400> 5252
Met Asn Arg Arg Val Ile Ser Ala Asn Pro Tyr Leu Gly Gly Thr Ser
  1               5                  10                  15
Asn Gly Tyr Ala His Pro Ser Gly Thr Ala Leu His Tyr Asp Asp Val
             20                 25                  30
Pro Cys Ile Asn Gly Ser Gly Glu Pro Glu Asp Gly Phe Pro Ala Phe
         35                 40                  45
Cys Ser Arg Ser Leu Gly Glu Glu Gly Ala Phe Glu Asn Pro Gly Leu
     50                 55                  60
Tyr Asp Asn Trp Pro Pro Pro His Ile Phe Ala Arg Tyr Ser Pro Ala
65                 70                 75                  80
Asp Arg Lys Ala Ser Arg Leu Ser Ala Asp Lys Leu Ser Ser Asn His
             85                 90                  95
Tyr Lys Tyr Pro Ala Ser Ala Gln Ser Val Thr Asn Thr Ser Ser Val
```

```
                 100                    105                    110
Gly Arg Ala Ser Leu Gly Leu Asn Ser Gln Pro Gln
        115                    120
```

<210> 5253
<211> 898
<212> DNA
<213> Homo sapiens

<400> 5253

```
ngaatatcca tgcagcgatc ctcaaggaca aactctgctg cttttctct ttgtggattt
60
ccacagtgca tttccagtcc agcaaatgga aatctgggga gtctatactt tgctcacaac
120
tcatctcaat gccatccttg tggagagcca cagtgtagtg caaggttcca tccaattcac
180
tgtggacaag gtcttggagc aacatcacca ggctgccaag gctcagcaga aactacaggc
240
ctcactctca gtggctgtga actccatcat gagtattctg actggaagca ctaggagcag
300
cttccgaaag atgtgtctcc agacccttca agcagctgac acacaagagt tcaggaccaa
360
actgcacaaa gtatttcgtg agatcaccca acaccaattt cttcaccact gctcatgtga
420
ggtgaagcag cagctaaccc tagaaaaaaa ggactcagcc cagggcactg aggacgcacc
480
tgataacagc agcctggagc tcctagcaga taccagcggg caagcagaaa caagaggct
540
caagaggggc agccccgca tagaggagat gcgagctctg cgctctgcca gggccccgag
600
cccgtcagag gccgccccgc gccgcccgga agccaccgcg gcccccctca ctcctagagg
660
aagggagcac cgcgaggctc acggcagggc cctggcgccg ggcagggcga gcctcggaag
720
ccgcctggag gacgtgctgt ggctgcagga ggtctccaac ctgtcagagt ggctgagtcc
780
cagccctggg ccctgagccg ggtccccttc cgcaagcgcc accgatccg gaggctgcgg
840
gcagccgtta tcccgtggtt taataaagct gccgcgcgct caaaaaaaaa aaaaaaaa
898
```

<210> 5254
<211> 56
<212> PRT
<213> Homo sapiens

<400> 5254

```
Gln Gln Pro Gly Ala Pro Ser Arg Tyr Gln Arg Ala Ser Arg Lys Gln
 1               5                  10                 15
Glu Ala Gln Glu Gly Gln Pro Pro His Arg Gly Asp Ala Ser Ser Ala
            20                 25                 30
Leu Cys Gln Gly Pro Glu Pro Val Arg Gly Arg Pro Ala Pro Pro Gly
        35                 40                 45
Ser His Arg Gly Pro Pro His Ser
```

```
        50                          55
```

<210> 5255
<211> 1410
<212> DNA
<213> Homo sapiens

<400> 5255
nncctgcctc cctcaggcac cagatccagt gtcctagtga aacgctggat cctagatccc
60
caaccccaga tccccatgcc tcgagccctg gatctccaag ctcagctgct ggattctgga
120
tgtcaacaaa cctcaccact ggatcctgac aaccacaatg cctggatcct ggggccccca
180
tcactggatc ccagatcccc tcactccacc cactggattc ctgcattggt ttttggtttt
240
ttgttttttt ttaacctcga cactgggtct cagatccttc tgctgactgc cagatccctg
300
catttcaagc actacgcctt ccaccccag gcactggatc ccagattccc aagccttcac
360
ccaccagatt ctggctccta aaacaagtgc ggggccccca gtggcacagc aagtggatcc
420
tggcaactgc agctgctgga ttccagattc tgggtcccca atccctctgc ccagtccctc
480
aatgttgaaa cctcatctct tgaaggcaga tcctgatatt ccaaggcact gaatcccaag
540
ccctgaatcc ccggtttctg atctgaatct tccaggcgcc gggtcccaaa tgttcaggcc
600
ccaagtctag atcctggcag cccagtcaca gagtatccca cacacactgg tgcccagagc
660
cggcttctca tgacatgaaa ttgcatggtc gagggagtct gtggggaagg aagcccaggt
720
cctggctgca acctgcacgg atgctggatt cccctcacc ccacctctgc atggccaccc
780
cctcccagcc ctgtggggaa actgttccct ggaaccactc cactccctgc atccccacac
840
ttcacagcat cttccatccc cctcccacct tctaggcgaa tagtccccag agctgtgttc
900
ctccaagggg tccgaggaat cactcactcc tggaggctgg caaggagaca gtctgaggcc
960
agggacacat gaagggatgt ccccacccca gcactatcag ggcctcccca ggcttccaga
1020
gttgaaagcc aggagaaaat cggcaaagac caccttccc taaacccaag cacccaatga
1080
tgcaaaaaac aaaaacaaaa aaaaccacca aatccccaaa ttcattccag atctattttt
1140
ctaccagaga gaggagcaaa gtcctcctcc cctgcgccct tacattctgc acttcatagt
1200
tggattctga gcttaggatc atctggagac cccatggagg gacttggaaa ggggaactgg
1260
gatttgggga ggggctggag gacttccgca cgcttccacc tccttcgacc tccactgcgc
1320
cccacctccc tgcctgtgtg tgttatttca aggaaaaga acaaaaggaa taaattttct
1380
```

aagctcttta aaaaaaaaaa aaaaaaaaaa
1410

<210> 5256
<211> 95
<212> PRT
<213> Homo sapiens

<400> 5256
Met Val Glu Gly Val Cys Gly Glu Gly Ser Pro Gly Pro Gly Cys Asn
1   5   10   15
Leu His Gly Cys Trp Ile Pro Pro His Pro Thr Ser Ala Trp Pro Pro
            20   25   30
Pro Pro Ser Pro Val Gly Lys Leu Phe Pro Gly Thr Thr Pro Leu Pro
            35   40   45
Ala Ser Pro His Phe Thr Ala Ser Ser Ile Pro Leu Pro Pro Ser Arg
        50   55   60
Arg Ile Val Pro Arg Ala Val Phe Leu Gln Gly Val Arg Gly Ile Thr
65   70   75   80
His Ser Trp Arg Leu Ala Arg Arg Gln Ser Glu Ala Arg Asp Thr
                85   90   95

<210> 5257
<211> 1366
<212> DNA
<213> Homo sapiens

<400> 5257
ncaggctctg tgttggttgg agcgagcatg tgggtctgca gtaccctgtg gcgggtgcga
60
accccgcccg gcagtggcgg gggcctgctc ccagcttctg gctgtcacgg acctgccgcc
120
tcctcctact ccgcatccgc cgagcctgcc cgggtccgcg gccttgtcta tgggcaccac
180
ggggatccag ccaaggtcgt cgaactcaag aacctggagc tagctgctgt gagaggatca
240
gatgtccgtg tgaagatgct ggcggcccct atcaatccat ctgacataaa tatgatccaa
300
ggaaactacg gactccttcc tgaactgcct gctgttggag ggaacgaagg tgttgcacag
360
gtggtagcgg tgggcagcaa tgtgaccggg ctgaagccag agactgggt gattccagca
420
aatgctggtt tagactcagg aacctggcgg accgaggctg tgttcagcga ggaagcactg
480
atccaagttc cgagtgacat ccctcttcag agcgctgcca ccctgggtgt caatccctgc
540
acagcctaca ggatgttgat ggacttcgag caactgcagc caggggattc tgtcatccag
600
aatgcatcca cagcggagt ggggcaagca gtcatccaga tcgccgcagc cctgggccta
660
agaaccatca atgtggtccg agacagacct gatatccaga agctgagtga cagactgaag
720
agtctggggg ctgagcatgt catcacagaa gaggagctaa gaaggcccga aatgaaaaac
780

4428

```
ttctttaagg acatgcccca gccacggctt gctctcaact gtgttggtgg gaaaagctcc
840
acagagctgc tgcggcagtt agcgcgtgga ggaaccatgg taacctatgg ggggatggcc
900
aagcagcccg tcgtagcctc tgtgagcctg ctcattttta aggatctcaa acttcgaggc
960
ttttggttgt cccagtggaa gaaggatcac agtccagacc agttcaagga gctgatcctc
1020
acactgtgcg atctcatccg ccgaggccag ctcacagccc ctgcctgctc ccaggtcccg
1080
ctgcaggact accagtctgc cttggaagcc tccatgaagc ccttcatatc ttcaaagcag
1140
attctcacca tgtgatcatc ccaaaagagc tggagtgaca tgggagggga ggcggatctg
1200
aggggctggg tgcaggcccc tcagttgggg ctcccacctt ccccagacta ctgttctcct
1260
cactgcctct tcctattagg aggatggtga agccagccac ggttttcccc agggccagcc
1320
ttaaggtatc taataaagtc tgaactctcc cttccaaaaa aaaaa
1366


<210> 5258
<211> 375
<212> PRT
<213> Homo sapiens

<400> 5258
Met Trp Val Cys Ser Thr Leu Trp Arg Val Arg Thr Pro Pro Gly Ser
1               5                   10                  15
Gly Gly Gly Leu Leu Pro Ala Ser Gly Cys His Gly Pro Ala Ala Ser
                20                  25                  30
Ser Tyr Ser Ala Ser Ala Glu Pro Ala Arg Val Arg Gly Leu Val Tyr
            35                  40                  45
Gly His His Gly Asp Pro Ala Lys Val Val Glu Leu Lys Asn Leu Glu
        50                  55                  60
Leu Ala Ala Val Arg Gly Ser Asp Val Arg Val Lys Met Leu Ala Ala
65                  70                  75                  80
Pro Ile Asn Pro Ser Asp Ile Asn Met Ile Gln Gly Asn Tyr Gly Leu
                85                  90                  95
Leu Pro Glu Leu Pro Ala Val Gly Gly Asn Glu Gly Val Ala Gln Val
                100                 105                 110
Val Ala Val Gly Ser Asn Val Thr Gly Leu Lys Pro Gly Asp Trp Val
            115                 120                 125
Ile Pro Ala Asn Ala Gly Leu Asp Ser Gly Thr Trp Arg Thr Glu Ala
        130                 135                 140
Val Phe Ser Glu Glu Ala Leu Ile Gln Val Pro Ser Asp Ile Pro Leu
145                 150                 155                 160
Gln Ser Ala Ala Thr Leu Gly Val Asn Pro Cys Thr Ala Tyr Arg Met
                165                 170                 175
Leu Met Asp Phe Glu Gln Leu Gln Pro Gly Asp Ser Val Ile Gln Asn
                180                 185                 190
Ala Ser Asn Ser Gly Val Gly Gln Ala Val Ile Gln Ile Ala Ala Ala
            195                 200                 205
Leu Gly Leu Arg Thr Ile Asn Val Val Arg Asp Arg Pro Asp Ile Gln
```

```
       210                    215                    220
Lys Leu Ser Asp Arg Leu Lys Ser Leu Gly Ala Glu His Val Ile Thr
225                    230                    235                    240
Glu Glu Glu Leu Arg Arg Pro Glu Met Lys Asn Phe Phe Lys Asp Met
                   245                    250                    255
Pro Gln Pro Arg Leu Ala Leu Asn Cys Val Gly Gly Lys Ser Ser Thr
                   260                    265                    270
Glu Leu Leu Arg Gln Leu Ala Arg Gly Gly Thr Met Val Thr Tyr Gly
             275                    280                    285
Gly Met Ala Lys Gln Pro Val Val Ala Ser Val Ser Leu Leu Ile Phe
             290                    295                    300
Lys Asp Leu Lys Leu Arg Gly Phe Trp Leu Ser Gln Trp Lys Lys Asp
305                    310                    315                    320
His Ser Pro Asp Gln Phe Lys Glu Leu Ile Leu Thr Leu Cys Asp Leu
                   325                    330                    335
Ile Arg Arg Gly Gln Leu Thr Ala Pro Ala Cys Ser Gln Val Pro Leu
             340                    345                    350
Gln Asp Tyr Gln Ser Ala Leu Glu Ala Ser Met Lys Pro Phe Ile Ser
             355                    360                    365
Ser Lys Gln Ile Leu Thr Met
     370                    375
```

```
<210> 5259
<211> 306
<212> DNA
<213> Homo sapiens
```

```
<400> 5259
ctgaattgct gtgagggcag aacacccaag gagacaatag aaaatttgtt gcacagaatg
60
actgaagaga agacgctgac tgctgagggt ttggtaaaac tcctccaggc tgtgaagacg
120
actttcccaa acctgggcct tctgctagag aagttgcaga aatcagccac tttgccaagc
180
accacagtcc aaccaagccc tgatgattat gggactgagc tattgagacg ctatcatgaa
240
aacctctctg agattttcac agacaaccag attttattaa agatgatctc acacatgaca
300
agttta
306
```

```
<210> 5260
<211> 83
<212> PRT
<213> Homo sapiens
```

```
<400> 5260
Met Thr Glu Glu Lys Thr Leu Thr Ala Glu Gly Leu Val Lys Leu Leu
1                   5                    10                   15
Gln Ala Val Lys Thr Thr Phe Pro Asn Leu Gly Leu Leu Leu Glu Lys
             20                   25                    30
Leu Gln Lys Ser Ala Thr Leu Pro Ser Thr Thr Val Gln Pro Ser Pro
       35                    40                    45
Asp Asp Tyr Gly Thr Glu Leu Leu Arg Arg Tyr His Glu Asn Leu Ser
```

```
            50                      55                      60
Glu Ile Phe Thr Asp Asn Gln Ile Leu Leu Lys Met Ile Ser His Met
65                      70                      75                      80
Thr Ser Leu


<210> 5261
<211> 2394
<212> DNA
<213> Homo sapiens

<400> 5261
ncggccgcca tggcgacccc ggccaggccc ggcgaggccg aggacgcggc cgagcggccc
60
ctccaggatg agccggcggc ggcggcggca ggcccgggca agggtcgctt cctcgtccgc
120
atctgtttcc agggagacga gggcgcctgc ccgacccggg acttcgtggt aggagcgctt
180
atcctgcgct ccatcggcat ggacccgagc gacatctacg cggtcatcca gatcccgggc
240
agccgcgaat tcgacgtgag cttccgctca gcggagaagc tggccctgtt cctacgcgtc
300
tacgaggaga gcgggagca ggaggactgc tgggagaact ttgtggtgct ggggcggagc
360
aagtccagct tgaagacgct cttcatcctc ttccggaacg agacggtgga cgtggaggac
420
attgtgactt ggctcaagcg ccactgcgac gtgctggccg tgccggtgaa agtgaccgac
480
aggtttggga tctggaccgg ggagtacaaa tgcgagatcg agctgcgcca gggggagggc
540
ggggtcaggc acttgccagg ggccttcttc ctgggggccg agaggggcta cagctggtac
600
aagggcagc ccaagacatg ctttaaatgt ggttcccgga cccacatgag cggcagctgc
660
acgcaggaca ggtgcttcag gtgcggggag gaggggcacc tgagccctta ctgccggaag
720
ggcatcgtgt gcaacctctg tggcaagcga ggacacgcct ttgcccagtg tcccaaagca
780
gtgcacaatt ccgtggcagc tcagctaacc ggcgtggccg ggcactaaac acccgcctgc
840
ctgccagggt gaacacacag ccagcttatc cctcttaagt gccaaaactt tttttaaac
900
cattttttat cgttttgaa ggagatcttt ttaaaaccta caagagacat ctctctatgc
960
cttcttaaac cgagtttact ccatttcagc ctgttctgaa ttggtgactc tgtcaccaat
1020
aacgactgcg gagaactgta gcgtgcagat gtgttgcccc tcccttttaa aattttattt
1080
tcgttttct attgggtatt tgttttgttt cttgtacttt ttctctctct ccttgccccc
1140
ctcccgccct ccccgcccca tacctttct tccctggat tttcacccctt tgggctgcct
1200
tgctcatctt tatgccccag cactaggtac ggggcccaac acgtggtagg cactccatca
1260
```

```
gtgtttgctg aattgaaaac attgttgact gtggcttcta tcagagtgtc tacctttgc
1320
agctcttccc ctccctcatt taatttgctg cttttaatct acgtggtctg agaatttgtg
1380
aaaccagtgt tgttagaagt gtatataatc tgaatcaata agctctgaat ggtggccaag
1440
ggcctctctt atggcacaaa gatgcatgga cttcatgaca gctcttttgg tggctcagaa
1500
gccattttt atagaatcat ggaatctaga atattcctgc tggaaagaac ctgagagttg
1560
gtttggacca attccctggt tttccagcag atgaaacagg cccaagagg ttaaatgact
1620
gggtgaaaat cacatagctg tctggtgcca gagccagcct atagtagagt cccctgaccc
1680
caagcccggt gctcattcca ctacctctca cacttcacaa caatttcctc aacacttgag
1740
ggcccagaaa gtctgatctc tccagaatga tcagcccaga ggaatgctga gaaatcacct
1800
ggaggaggga gcagaaagag aaggttttta aggagggct tctgaatact tgggagatac
1860
ggaacggacc aaggaccaca ctccagggtg cattcgttgc tccctggggc accacttctg
1920
gattacagtg tgccaggtcc tttggaggcc ctacccettc cccattcatt gccaccagtg
1980
agaaatgggg gtgcccctgt gtaaagaaac ctaccaaagg tttacatttg caccttagcc
2040
tcaatagcta cgaaccctag agaagcagct agctggagct catgtgcaac tcctgattct
2100
caggagaaag atggatttta acccaaaatt atgagtgagc tgttaactct aaaatgtact
2160
tgggagatag gccaagcgag aggtcatggg ccaactaagt gttatccagt agaaaagaca
2220
gtacactgct tttcttttag tgtttgcttt tcctttgcta tatgtttttgc tatttccttg
2280
tggcttagaa tgtaaaattg attgttaaaa gttttgttct gaataaatat ttatctttg
2340
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2394
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<210> 5262
<211> 275
<212> PRT
<213> Homo sapiens

<400> 5262

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Xaa Ala Ala Met Ala Thr Pro Ala Arg Pro Gly Glu Ala Glu Asp Ala
1               5                   10                  15
Ala Glu Arg Pro Leu Gln Asp Glu Pro Ala Ala Ala Ala Ala Gly Pro
            20                  25                  30
Gly Lys Gly Arg Phe Leu Val Arg Ile Cys Phe Gln Gly Asp Glu Gly
        35                  40                  45
Ala Cys Pro Thr Arg Asp Phe Val Val Gly Ala Leu Ile Leu Arg Ser
    50                  55                  60
```

```
Ile Gly Met Asp Pro Ser Asp Ile Tyr Ala Val Ile Gln Ile Pro Gly
70                  75                  80
Ser Arg Glu Phe Asp Val Ser Phe Arg Ser Ala Glu Lys Leu Ala Leu
                85                  90                  95
Phe Leu Arg Val Tyr Glu Glu Lys Arg Glu Gln Glu Asp Cys Trp Glu
            100                 105                 110
Asn Phe Val Val Leu Gly Arg Ser Lys Ser Ser Leu Lys Thr Leu Phe
        115                 120                 125
Ile Leu Phe Arg Asn Glu Thr Val Asp Val Glu Asp Ile Val Thr Trp
        130                 135                 140
Leu Lys Arg His Cys Asp Val Leu Ala Val Pro Val Lys Val Thr Asp
145                 150                 155                 160
Arg Phe Gly Ile Trp Thr Gly Glu Tyr Lys Cys Glu Ile Glu Leu Arg
                165                 170                 175
Gln Gly Glu Gly Gly Val Arg His Leu Pro Gly Ala Phe Phe Leu Gly
            180                 185                 190
Ala Glu Arg Gly Tyr Ser Trp Tyr Lys Gly Gln Pro Lys Thr Cys Phe
            195                 200                 205
Lys Cys Gly Ser Arg Thr His Met Ser Gly Ser Cys Thr Gln Asp Arg
        210                 215                 220
Cys Phe Arg Cys Gly Glu Glu Gly His Leu Ser Pro Tyr Cys Arg Lys
225                 230                 235                 240
Gly Ile Val Cys Asn Leu Cys Gly Lys Arg Gly His Ala Phe Ala Gln
                245                 250                 255
Cys Pro Lys Ala Val His Asn Ser Val Ala Ala Gln Leu Thr Gly Val
            260                 265                 270
Ala Gly His
        275


<210> 5263
<211> 319
<212> DNA
<213> Homo sapiens

<400> 5263
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tttcagctga cgaattacca gaagatccag cattgctgtc gtttccatca aaagtagctg
120
gaagtagata cacattattt tctgacaggg gggaagtatc agaagaaagc atgttggttg
180
tgccttggaa aatctttttt ggttgatatt gaaatgccat ttcaccagtt tcaagccttc
240
ttcccaagag tgacttatct gtatcttact ttgtagcttc cattcagaca ttgttgctct
300
atttattaaa tccatggct
319

<210> 5264
<211> 105
<212> PRT
<213> Homo sapiens

<400> 5264
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Met Asp Leu Ile Asn Arg Ala Thr Met Ser Glu Trp Lys Leu Gln Ser
1               5                   10                  15
Lys Ile Gln Ile Ser His Ser Trp Glu Glu Gly Leu Lys Leu Val Lys
            20                  25                  30
Trp His Phe Asn Ile Asn Gln Lys Arg Phe Ser Lys Ala Gln Pro Thr
        35                  40                  45
Cys Phe Leu Leu Ile Leu Pro Pro Cys Gln Lys Ile Met Cys Ile Tyr
    50                  55                  60
Phe Gln Leu Leu Leu Met Glu Thr Thr Ala Met Leu Asp Leu Leu Val
65                  70                  75                  80
Ile Arg Gln Leu Lys Ser Ala Leu Ser Gln Thr Leu Leu Cys His Leu
            85                  90                  95
Leu Ile Leu Val Leu Ile Cys Ser Arg
            100                 105
```

<210> 5265
<211> 3203
<212> DNA
<213> Homo sapiens

<400> 5265
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ggagagagat cggggtgagt cgccatgggg actcccaggg cccagcaccc gccgcctccc
120
cagctgctgt tcctaattct gctgagctgt ccctggatcc agggtctgcc cctgaaggag
180
gaggagatat tgccagagcc tggaagtgag accccacgg tggcctctga ggccctggct
240
gaactgcttc atggggccct gctgaggagg ggcccagaga tgggctacct gccagggcct
300
cccttgggc ctgagggagg agaggaggag acgacgacca ccatcatcac cacgacaact
360
gttaccacta cggtgaccag cccagttctg tgtaataaca acatctccga gggcgaaggg
420
tatgtggagt ctccagatct ggggagcccc gtcagccgca ccctggggct cctggactgc
480
acttacagca tccatgtcta ccctggctac ggcattgaga tccaggtgca gacgctgaac
540
ctgtcacagg aagaggagct cctggtgctg gctggtgggg atccccagg cctggccccc
600
cgactcctgg ccaactcatc catgcttgga gaaggacaag tccttcggag cccaaccaac
660
cggctgcttc tgcacttcca gagcccacgg gtcccaaggg gcggtggctt caggatccac
720
tatcaggcct acctcctgag ctgtggcttc cctccccggc cggcccatgg ggacgtgagt
780
gtgacggacc tgcaccctgg gggcactgcc acctttcact gtgattcggg ctaccagctg
840
cagggagagg agaccctcat ctgcctcaat ggcacccggc atcctggaa cggtgaaacc
900
cccagctgca tggcatcctg tggtggcacc atccacaatg ccaccctggg ccgcatcgtg
960
```

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tccccagagc ctgggggagc cgtagggccc aacctcacct gccgttgggt cattgaagca
1020
gctgaggggc gccggctgca cctgcacttt gaaagggtct cgctggatga ggacaatgac
1080
cggctgatgg tgcgctcagg gggcagcccc ctatcccccg tgatctatga ttcggacatg
1140
gacgatgtcc ccgagcgggg tctcatcagt gacgcccagt ccctctacgt ggagctgctg
1200
tcagagacac ctgccaatcc cctgctgtta agccttcgat ttgaagcctt tgaggaggat
1260
cgctgcttcg ccccttcct ggcacatgga aatgtcacta ccacggaccc tgagtatcgc
1320
ccagggcac tggcaacctt ctcgtgcctc ccaggatatg ccctggagcc ccctgggccc
1380
cccaatgcca tcgaatgtgt ggatcccaca gaacccccact ggaacgacac agagccggcc
1440
tgcaaagcca tgtgtggagg ggagctgtcg gaaccagctg gcgtggtcct ctctcccgac
1500
tggccccaga gctatagccc gggccaagac tgcgtgtggg gcgtgcacgt ccaggaagag
1560
aagcgcatct tgctccaagt tgagatattg aatgtgcggg aaggggacat gctgacgctg
1620
ttcgacgggg acggtcccag cgcccgagtc ttggcccagc tgcggggacc tcagccgcgc
1680
cgccgccttc tctcctctgg gcccgacctc acactgcagt ttcaggcacc gcccgggccc
1740
ccaaatccag gcctgggcca gggcttcgta ttgcacttca agaggtccc gaggaacgac
1800
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1860
atccggggca cggtgctcac ctaccagtgc gagcctggct acgagctgct aggctccgac
1920
attctcactt gccagtggga cctgtcttgg agcgccgcgc cgcccgcctg ccaaaagatc
1980
atgacttgtg ctgaccctgg cgagattgcc aacgggcacc gcaccgcctc ggacgccggc
2040
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2100
gccatgctca cctgctacag ccgggacaca ggcacaccca gtggagcga tagggtcccc
2160
aaatgcgcct tgaagtacga gccgtgcctg aacccggggg ttcccgagaa tggctaccag
2220
acgctgtaca agcaccacta ccaggcgggc gagtctctgc gcttcttctg ctatgagggc
2280
tttgagctta tcggcgaggt caccatcacc tgtgtgcccg gccacccctc ccagtggacc
2340
agccagcccc cactctgcaa agttgcctat gaggagctcc tggacaaccg aaaactggaa
2400
gtgacccaga ccacagatcc atcacggcag ctggaagggg ggaacctggc cctggccatc
2460
ctgctgcctc taggcttggt cattgtcctc ggcagtggcg tttacatcta ctacaccaag
2520
cttcagggaa agtcccttttt cggcttctcg ggctcccact cctacagccc catcaccgtg
2580
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gagtcggact tcagcaaccc gctgtatgaa gctggggata cgcgggagta tgaagtttcc
2640
atctgaaccc caagactaca gctgcaggac ccaggacgcc cctcccctcc tcattcgggc
2700
agagggaaat acgggacccg gtctctgcct cctggctgcc ctcctccctg gctgtgtaaa
2760
tagtctccct atcccacgag ggggctttga tggccctgga gatcctacag taaataaacc
2820
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2880
cctaccggct tttggattct gggaggggaa ctctgcctcc ctgcaaatct tgcagcccct
2940
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3000
aggtgccccc ctcccagatg ccctggccct aggcctgact ccggccagga gggtcagaag
3060
aaggacaaag gggagagctg ggacaaggcc ttgccccctt cctgccatct ccccaaccca
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3180
ttgtaaaaaa aaaaaaaaaa aaa
3203


<210> 5266
<211> 853
<212> PRT
<213> Homo sapiens


<400> 5266
Met Gly Thr Pro Arg Ala Gln His Pro Pro Pro Pro Gln Leu Leu Phe
1               5                   10                  15
Leu Ile Leu Leu Ser Cys Pro Trp Ile Gln Gly Leu Pro Leu Lys Glu
            20                  25                  30
Glu Glu Ile Leu Pro Glu Pro Gly Ser Glu Thr Pro Thr Val Ala Ser
            35                  40                  45
Glu Ala Leu Ala Glu Leu Leu His Gly Ala Leu Leu Arg Arg Gly Pro
        50                  55                  60
Glu Met Gly Tyr Leu Pro Gly Pro Leu Gly Pro Glu Gly Gly Glu
65                  70                  75                  80
Glu Glu Thr Thr Thr Thr Ile Ile Thr Thr Thr Thr Val Thr Thr Thr
                    85                  90                  95
Val Thr Ser Pro Val Leu Cys Asn Asn Asn Ile Ser Glu Gly Glu Gly
                100                 105                 110
Tyr Val Glu Ser Pro Asp Leu Gly Ser Pro Val Ser Arg Thr Leu Gly
            115                 120                 125
Leu Leu Asp Cys Thr Tyr Ser Ile His Val Tyr Pro Gly Tyr Gly Ile
        130                 135                 140
Glu Ile Gln Val Gln Thr Leu Asn Leu Ser Gln Glu Glu Glu Leu Leu
145                 150                 155                 160
Val Leu Ala Gly Gly Gly Ser Pro Gly Leu Ala Pro Arg Leu Leu Ala
                165                 170                 175
Asn Ser Ser Met Leu Gly Glu Gly Gln Val Leu Arg Ser Pro Thr Asn
                180                 185                 190
Arg Leu Leu Leu His Phe Gln Ser Pro Arg Val Pro Arg Gly Gly Gly
```

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                  195                      200                      205
Phe Arg Ile His Tyr Gln Ala Tyr Leu Leu Ser Cys Gly Phe Pro Pro
    210                      215                      220
Arg Pro Ala His Gly Asp Val Ser Val Thr Asp Leu His Pro Gly Gly
225                      230                      235                      240
Thr Ala Thr Phe His Cys Asp Ser Gly Tyr Gln Leu Gln Gly Glu Glu
                  245                      250                      255
Thr Leu Ile Cys Leu Asn Gly Thr Arg Pro Ser Trp Asn Gly Glu Thr
                  260                      265                      270
Pro Ser Cys Met Ala Ser Cys Gly Gly Thr Ile His Asn Ala Thr Leu
                  275                      280                      285
Gly Arg Ile Val Ser Pro Glu Pro Gly Gly Ala Val Gly Pro Asn Leu
    290                      295                      300
Thr Cys Arg Trp Val Ile Glu Ala Ala Glu Gly Arg Arg Leu His Leu
305                      310                      315                      320
His Phe Glu Arg Val Ser Leu Asp Glu Asp Asn Asp Arg Leu Met Val
                  325                      330                      335
Arg Ser Gly Gly Ser Pro Leu Ser Pro Val Ile Tyr Asp Ser Asp Met
                  340                      345                      350
Asp Asp Val Pro Glu Arg Gly Leu Ile Ser Asp Ala Gln Ser Leu Tyr
                  355                      360                      365
Val Glu Leu Leu Ser Glu Thr Pro Ala Asn Pro Leu Leu Leu Ser Leu
    370                      375                      380
Arg Phe Glu Ala Phe Glu Glu Asp Arg Cys Phe Ala Pro Phe Leu Ala
385                      390                      395                      400
His Gly Asn Val Thr Thr Thr Asp Pro Glu Tyr Arg Pro Gly Ala Leu
                  405                      410                      415
Ala Thr Phe Ser Cys Leu Pro Gly Tyr Ala Leu Glu Pro Pro Gly Pro
                  420                      425                      430
Pro Asn Ala Ile Glu Cys Val Asp Pro Thr Glu Pro His Trp Asn Asp
                  435                      440                      445
Thr Glu Pro Ala Cys Lys Ala Met Cys Gly Gly Glu Leu Ser Glu Pro
    450                      455                      460
Ala Gly Val Val Leu Ser Pro Asp Trp Pro Gln Ser Tyr Ser Pro Gly
465                      470                      475                      480
Gln Asp Cys Val Trp Gly Val His Val Gln Glu Glu Lys Arg Ile Leu
                  485                      490                      495
Leu Gln Val Glu Ile Leu Asn Val Arg Glu Gly Asp Met Leu Thr Leu
                  500                      505                      510
Phe Asp Gly Asp Gly Pro Ser Ala Arg Val Leu Ala Gln Leu Arg Gly
                  515                      520                      525
Pro Gln Pro Arg Arg Arg Leu Leu Ser Ser Gly Pro Asp Leu Thr Leu
    530                      535                      540
Gln Phe Gln Ala Pro Pro Gly Pro Pro Asn Pro Gly Leu Gly Gln Gly
545                      550                      555                      560
Phe Val Leu His Phe Lys Glu Val Pro Arg Asn Asp Thr Cys Pro Glu
                  565                      570                      575
Leu Pro Pro Pro Glu Trp Gly Trp Arg Thr Ala Ser His Gly Asp Leu
                  580                      585                      590
Ile Arg Gly Thr Val Leu Thr Tyr Gln Cys Glu Pro Gly Tyr Glu Leu
                  595                      600                      605
Leu Gly Ser Asp Ile Leu Thr Cys Gln Trp Asp Leu Ser Trp Ser Ala
    610                      615                      620
Ala Pro Pro Ala Cys Gln Lys Ile Met Thr Cys Ala Asp Pro Gly Glu
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```
625                      630                      635                      640
Ile Ala Asn Gly His Arg Thr Ala Ser Asp Ala Gly Phe Pro Val Gly
                  645                      650                      655
Ser His Val Gln Tyr Arg Cys Leu Pro Gly Tyr Ser Leu Glu Gly Ala
                  660                      665                      670
Ala Met Leu Thr Cys Tyr Ser Arg Asp Thr Gly Thr Pro Lys Trp Ser
                  675                      680                      685
Asp Arg Val Pro Lys Cys Ala Leu Lys Tyr Glu Pro Cys Leu Asn Pro
             690                      695                      700
Gly Val Pro Glu Asn Gly Tyr Gln Thr Leu Tyr Lys His His Tyr Gln
705                      710                      715                      720
Ala Gly Glu Ser Leu Arg Phe Phe Cys Tyr Glu Gly Phe Glu Leu Ile
                  725                      730                      735
Gly Glu Val Thr Ile Thr Cys Val Pro Gly His Pro Ser Gln Trp Thr
                  740                      745                      750
Ser Gln Pro Pro Leu Cys Lys Val Ala Tyr Glu Glu Leu Leu Asp Asn
             755                      760                      765
Arg Lys Leu Glu Val Thr Gln Thr Thr Asp Pro Ser Arg Gln Leu Glu
             770                      775                      780
Gly Gly Asn Leu Ala Leu Ala Ile Leu Leu Pro Leu Gly Leu Val Ile
785                      790                      795                      800
Val Leu Gly Ser Gly Val Tyr Ile Tyr Tyr Thr Lys Leu Gln Gly Lys
                  805                      810                      815
Ser Leu Phe Gly Phe Ser Gly Ser His Ser Tyr Ser Pro Ile Thr Val
                  820                      825                      830
Glu Ser Asp Phe Ser Asn Pro Leu Tyr Glu Ala Gly Asp Thr Arg Glu
             835                      840                      845
Tyr Glu Val Ser Ile
        850


<210> 5267
<211> 885
<212> DNA
<213> Homo sapiens

<400> 5267
ttcggcacga ggggcaccat gctgcaagga gagtatacct actctttggg ccaagtttat
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gatcccacca caacctacct tggagctcct gtcttctatg cccccccagac ctatgcagca
120
attcccagtc ttcatttccc agccaccaaa ggacatctca gcaacagagc cattatccga
180
gccccttctg ttagagaaat ttacatgaat gtacctgtag gggctgcggg agtgagagga
240
ctgggcggcc gtggctattt ggcatacaca ggcctgggtc gaggatacca ggtcaaagga
300
gacaaaagag aagacaaact ctatgacatt ttacctggga tggagctcac cccaatgaat
360
cctgtcacat aaaaccccca aggaattaaa ctcgctcccc agatattaga agagatttgt
420
cagaaaaata actggggaca gccagtgtac cagctgcact ctgctattgg acaagaccaa
480
agacagctat tcttgtacaa aataactatt cctgctctag ccagccagaa tcctgcaatc
540
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caccctttca cacctccaaa gctgagtgcc tttgtggatg aagcaaagac gtatgcagcc
600
gaatacaccc tgcagaccct gggcatcccc actgatggag gcgatggcac catggctact
660
gctgctgctg ctgctactgc tttcccagga tatgctgtcc ctaatgcaac tgcacccgtg
720
tctgcagccc agctcaagca agcggtaacc cttggacaag acttagcagc atatacaacc
780
tatgaggtct acccaacttt tgcagtgact gcccgagggg atggatatgg caccttctga
840
agatgctttt ttaaatttaa gaataagaca cacaaaactc tatta
885

<210> 5268
<211> 279
<212> PRT
<213> Homo sapiens

<400> 5268
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Phe Gly Thr Arg Gly Thr Met Leu Gln Gly Glu Tyr Thr Tyr Ser Leu
 1               5                  10                  15
Gly Gln Val Tyr Asp Pro Thr Thr Tyr Leu Gly Ala Pro Val Phe
             20                  25                  30
Tyr Ala Pro Gln Thr Tyr Ala Ala Ile Pro Ser Leu His Phe Pro Ala
         35                  40                  45
Thr Lys Gly His Leu Ser Asn Arg Ala Ile Ile Arg Ala Pro Ser Val
     50                  55                  60
Arg Glu Ile Tyr Met Asn Val Pro Val Gly Ala Ala Gly Val Arg Gly
65                  70                  75                  80
Leu Gly Gly Arg Gly Tyr Leu Ala Tyr Thr Gly Leu Gly Arg Gly Tyr
             85                  90                  95
Gln Val Lys Gly Asp Lys Arg Glu Asp Lys Leu Tyr Asp Ile Leu Pro
            100                 105                 110
Gly Met Glu Leu Thr Pro Met Asn Pro Val Thr Leu Lys Pro Gln Gly
        115                 120                 125
Ile Lys Leu Ala Pro Gln Ile Leu Glu Glu Ile Cys Gln Lys Asn Asn
    130                 135                 140
Trp Gly Gln Pro Val Tyr Gln Leu His Ser Ala Ile Gly Gln Asp Gln
145                 150                 155                 160
Arg Gln Leu Phe Leu Tyr Lys Ile Thr Ile Pro Ala Leu Ala Ser Gln
             165                 170                 175
Asn Pro Ala Ile His Pro Phe Thr Pro Pro Lys Leu Ser Ala Phe Val
            180                 185                 190
Asp Glu Ala Lys Thr Tyr Ala Ala Glu Tyr Thr Leu Gln Thr Leu Gly
            195                 200                 205
Ile Pro Thr Asp Gly Gly Asp Gly Thr Met Ala Thr Ala Ala Ala Ala
    210                 215                 220
Ala Thr Ala Phe Pro Gly Tyr Ala Val Pro Asn Ala Thr Ala Pro Val
225                 230                 235                 240
Ser Ala Ala Gln Leu Lys Gln Ala Val Thr Leu Gly Gln Asp Leu Ala
             245                 250                 255
Ala Tyr Thr Thr Tyr Glu Val Tyr Pro Thr Phe Ala Val Thr Ala Arg
            260                 265                 270
Gly Asp Gly Tyr Gly Thr Phe
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275

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<210> 5269
<211> 1177
<212> DNA
<213> Homo sapiens

<400> 5269
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tctactagct caagtagtca ggagaataat tctgcccaaa gcagtctgct tccttccatg
120
aatgaacagt cacagaagac acaaaatata tccagctttg attctgagct gtttctagaa
180
gaactggatg aattgcctcc attgtctcca atgcagccaa tttcagagga agaggctatt
240
cagattattg cagaccctcc attgccacca gcttcattca cacttcgaga ctatgtggat
300
cattctgaga ctctgcagaa gttggttctt ctaggcgtgg atttgtccaa gatagaaaaa
360
catccagaag cagcaaacct ccttctgaga ctggattttg aaaaagacat taagcaaatg
420
cttctgtttc ttaaagatgt gggtatagag gataaccaac tgggagcatt cctgacaaaa
480
aatcatgcaa ttttctctga agaccttgaa aatctgaaga ccagggtggc ttatctgcat
540
tcaaaaaatt tcagtaaagc agatgttgca cagatggtca gaaaagcacc attttttgctg
600
aacttttcag tggaaagact ggataacaga ttgggatttt ttcagaaaga acttgaactt
660
agtgtgaaga agactagaga tctggtagtt cgtctcccaa ggctgctaac tggaagtctg
720
gaacccgtga aagaaaatat gaaggtttat cgtcttgaac ttggttttaa acataacgaa
780
attcaacata tgatcaccag aatcccaaag atgttaactg caaataaaat gaaacttacc
840
gagacgtttg attttgtgca caatgtgatg agcattcccc accacatcat tgtcaagttc
900
ccacaggtat ttaatacaag gctgtttaag gtcaaagaaa gacacttgtt tcttacctat
960
ttaggaagag cacagtatga tccagcaaaa cctaactaca tctctttgga caaactagta
1020
tctattcctg atgaaatatt ttgtgaagag attgccaaag catcagtaca ggactttgaa
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1140
atatatatga ataaatgaat atattttaa aaaaaaa
1177

<210> 5270
<211> 327
<212> PRT
<213> Homo sapiens
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<400> 5270
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 1               5                   10                  15
Glu Leu Phe Leu Glu Glu Leu Asp Glu Leu Pro Pro Leu Ser Pro Met
            20                  25                  30
Gln Pro Ile Ser Glu Glu Glu Ala Ile Gln Ile Ile Ala Asp Pro Pro
            35                  40                  45
Leu Pro Pro Ala Ser Phe Thr Leu Arg Asp Tyr Val Asp His Ser Glu
    50                  55                  60
Thr Leu Gln Lys Leu Val Leu Leu Gly Val Asp Leu Ser Lys Ile Glu
65                  70                  75                  80
Lys His Pro Glu Ala Ala Asn Leu Leu Leu Arg Leu Asp Phe Glu Lys
                85                  90                  95
Asp Ile Lys Gln Met Leu Leu Phe Leu Lys Asp Val Gly Ile Glu Asp
                100                 105                 110
Asn Gln Leu Gly Ala Phe Leu Thr Lys Asn His Ala Ile Phe Ser Glu
            115                 120                 125
Asp Leu Glu Asn Leu Lys Thr Arg Val Ala Tyr Leu His Ser Lys Asn
    130                 135                 140
Phe Ser Lys Ala Asp Val Ala Gln Met Val Arg Lys Ala Pro Phe Leu
145                 150                 155                 160
Leu Asn Phe Ser Val Glu Arg Leu Asp Asn Arg Leu Gly Phe Phe Gln
                165                 170                 175
Lys Glu Leu Glu Leu Ser Val Lys Lys Thr Arg Asp Leu Val Val Arg
            180                 185                 190
Leu Pro Arg Leu Leu Thr Gly Ser Leu Glu Pro Val Lys Glu Asn Met
    195                 200                 205
Lys Val Tyr Arg Leu Glu Leu Gly Phe Lys His Asn Glu Ile Gln His
210                 215                 220
Met Ile Thr Arg Ile Pro Lys Met Leu Thr Ala Asn Lys Met Lys Leu
225                 230                 235                 240
Thr Glu Thr Phe Asp Phe Val His Asn Val Met Ser Ile Pro His His
                245                 250                 255
Ile Ile Val Lys Phe Pro Gln Val Phe Asn Thr Arg Leu Phe Lys Val
                260                 265                 270
Lys Glu Arg His Leu Phe Leu Thr Tyr Leu Gly Arg Ala Gln Tyr Asp
            275                 280                 285
Pro Ala Lys Pro Asn Tyr Ile Ser Leu Asp Lys Leu Val Ser Ile Pro
    290                 295                 300
Asp Glu Ile Phe Cys Glu Glu Ile Ala Lys Ala Ser Val Gln Asp Phe
305                 310                 315                 320
Glu Lys Phe Leu Lys Thr Leu
                325

<210> 5271
<211> 1185
<212> DNA
<213> Homo sapiens

<400> 5271
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60
atagatgaaa atcaggatcg ctacattaag cctgttcaac tgcagcagcc acagagggtg
120
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agcctggaat gtggcaacgt tacgggagcc tcttctccct caaggacacc tttttcagaat
180
ccctcgttgc ttcttgtcca caaacagaaa ctcgcaaaat gggtggctat ccagagtgtg
240
tctgcgtggc cggagaagag aggcgaaatc aggaggatga tggaagttgc tgctgcagat
300
gttaagcagt tggggggctc tgtggaactg gtggatatcg gaaaacaaaa gctccctgat
360
ggctcggaga tcccgctccc tcctattctg ctcggcaggc tgggctccga cccacagaag
420
aagaccgtgt gcatttacgg gcacctggat gtgcagcctg cagccctgga ggacggctgg
480
gacagcgagc ccttcacccт ggtggagcga cacggcaagc tgtatgggag aggttcgact
540
gatgataagg gcccggtggc cggctggata aacgccctgg aagcgtatca gaaaacaggc
600
caggagattc ctgtcaacgt ccgattctgc ctcgaaggca tggaggagtc aggctctgag
660
ggcctagacg agctgatttt tgcccggaaa gacacattct ttaaggatgt ggactatgtc
720
tgcatttctg acaattactg gctgggaaag aagaagcccт gcatcaccta cggcctcagg
780
ggcatttgct acttttttcat cgaggtggag tgcagcaaca agacctcca ttctggggtg
840
tacgggggct cggtgcatga ggccatgact gatctcattt tgctgatggg ctctttggtg
900
gacaagaggg ggaacatcct gatccccggc attaacgagg ccgtggccgc cgtcacggaa
960
gaggagcaca agctgtacga cgacatcgac tttgacatag aggagtttgc caaggatgtg
1020
ggggcgcaga tcctcctgca cagccacaag aaagacatcc tcatgcaccg atggcggtac
1080
ccgtctctgt ccctccatgg catcgaaggc gccttctctg ggtctggggc caagaccgtg
1140
attcccaaaa aggtggttgg caagttctcc atcaggctcg tgccg
1185
```

```
<210> 5272
<211> 385
<212> PRT
<213> Homo sapiens
```

```
<400> 5272
Met Ala Ala Leu Thr Thr Leu Phe Lys Tyr Ile Asp Glu Asn Gln Asp
1               5                   10                  15
Arg Tyr Ile Lys Pro Val Gln Leu Gln Gln Pro Gln Arg Val Ser Leu
            20                  25                  30
Glu Cys Gly Asn Val Thr Gly Ala Ser Ser Pro Ser Arg Thr Pro Phe
        35                  40                  45
Gln Asn Pro Ser Leu Leu Leu Val His Lys Gln Lys Leu Ala Lys Trp
    50                  55                  60
Val Ala Ile Gln Ser Val Ser Ala Trp Pro Glu Lys Arg Gly Glu Ile
65                  70                  75                  80
Arg Arg Met Met Glu Val Ala Ala Ala Asp Val Lys Gln Leu Gly Gly
```

4442

```
                      85                    90                    95
Ser Val Glu Leu Val Asp Ile Gly Lys Gln Lys Leu Pro Asp Gly Ser
            100                   105                   110
Glu Ile Pro Leu Pro Pro Ile Leu Leu Gly Arg Leu Gly Ser Asp Pro
            115                   120                   125
Gln Lys Lys Thr Val Cys Ile Tyr Gly His Leu Asp Val Gln Pro Ala
        130                   135                   140
Ala Leu Glu Asp Gly Trp Asp Ser Glu Pro Phe Thr Leu Val Glu Arg
145                   150                   155                   160
Asp Gly Lys Leu Tyr Gly Arg Gly Ser Thr Asp Asp Lys Gly Pro Val
                165                   170                   175
Ala Gly Trp Ile Asn Ala Leu Glu Ala Tyr Gln Lys Thr Gly Gln Glu
                180                   185                   190
Ile Pro Val Asn Val Arg Phe Cys Leu Glu Gly Met Glu Glu Ser Gly
            195                   200                   205
Ser Glu Gly Leu Asp Glu Leu Ile Phe Ala Arg Lys Asp Thr Phe Phe
        210                   215                   220
Lys Asp Val Asp Tyr Val Cys Ile Ser Asp Asn Tyr Trp Leu Gly Lys
225                   230                   235                   240
Lys Lys Pro Cys Ile Thr Tyr Gly Leu Arg Gly Ile Cys Tyr Phe Phe
                245                   250                   255
Ile Glu Val Glu Cys Ser Asn Lys Asp Leu His Ser Gly Val Tyr Gly
                260                   265                   270
Gly Ser Val His Glu Ala Met Thr Asp Leu Ile Leu Leu Met Gly Ser
            275                   280                   285
Leu Val Asp Lys Arg Gly Asn Ile Leu Ile Pro Gly Ile Asn Glu Ala
        290                   295                   300
Val Ala Ala Val Thr Glu Glu Glu His Lys Leu Tyr Asp Asp Ile Asp
305                   310                   315                   320
Phe Asp Ile Glu Glu Phe Ala Lys Asp Val Gly Ala Gln Ile Leu Leu
                325                   330                   335
His Ser His Lys Lys Asp Ile Leu Met His Arg Trp Arg Tyr Pro Ser
            340                   345                   350
Leu Ser Leu His Gly Ile Glu Gly Ala Phe Ser Gly Ser Gly Ala Lys
        355                   360                   365
Thr Val Ile Pro Lys Lys Val Val Gly Lys Phe Ser Ile Arg Leu Val
    370                   375                   380
Pro
385
```

```
<210> 5273
<211> 4580
<212> DNA
<213> Homo sapiens

<400> 5273
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gcacccggcc tgtaatccca gctacttggg aggctgaggc gggaggctga ggcaggagaa
120
tcgcttgaac ccgggaggtg gaggttgcgg tgagccaaga tcgcgccatt gctcttcagc
180
ctgggcaaca agagtgaaac tccatctttc ttttgagcca aagcctggtc aatgaagtcg
240
```

```
gcagcccttt caaagtaagc gctgaggttg aactcctgtg tgtcgttggc cttgatgccc
300
aggtatgtga tgccggagtc cttgtagaag ttggcattgg tgttgacgtg catgaaggac
360
ctgccctcag ccgcgttcag cacatgggtg atgcctagtt tctgcagctt ggggatgtcg
420
ggctcgttcg agctctcggt gcaggatctc aacgacctgc tctcggacgg cagcggctgc
480
tacagcctcc cgagccagcc ctgcaacgag gtcaccccgc ggatctacgt gggcaacgcg
540
tctgtggctc aggacatccc caagctgcag aaactaggca tcacccatgt gctgaacgcg
600
gctgagggca ggtccttcat gcacgtcaac accaatgcca acttctacaa ggactccggc
660
atcacatacc tgggcatcaa ggccaacgac acacaggagt tcaacctcag cgcttacttt
720
gaaagggctg ccgacttcat tgaccaggct ttggctcaaa agaatggccg ggtgctcgtc
780
cactgccggg aaggttatag ccgctcccca acgctagtta tcgcctacct catgatgcgg
840
cagaagatgg acgtcaagtc tgccctgagc atcgtgaggc agaaccgtga gatcggcccc
900
aacgatggct tcctggccca gctctgccag ctcaatgaca gactagccaa ggaggggaag
960
ttgaaaccct agggcacccc caccgcctct gctcgagagg tccgtggggg aggccgtggg
1020
caaaggtgtc ccgagctgcc atgtttagga aacacactgt accctgctcc cagcatcaca
1080
aggcacttgt ctacaagtgt gtcccaacac agtcctgggc cactttcccc accctgggga
1140
gcacataaag aagcttgcca aggggggcgt ccttgctccc cagttgtcct gtttctgtaa
1200
cttatgatgt ctttttccctg agatgggggc tcagaggggg aaggcctgtg gcctgcatgc
1260
ttcccgatgg cccacggcag gaggtgtgtg gaagtgtaag gcctaagatg ctcacagagg
1320
tccctcatga cctcccttcc ccaactcccg aatcctctct tgagtgtgga cctcaacacc
1380
ttgagcccta gtaaaggaac tatgcaaatg caggccactc tccccaccac gtctgtgccc
1440
cgcactgtcc ccacagcctt ccacaccctg tgcataggca gccctctcac gtcttgaggt
1500
ccgaagctgg ggtgggggtg tccgtcagtt attagtggat ggagattccc acagcaaggc
1560
tgcatttgaa tgatttcctt aggatgaatg gtccctacac aaagaggcct tgtgggcaaa
1620
cctggagaac cctcctaaat ccatagagtt ttcaaaatgt gaatctttgg aagccttgag
1680
ttcagaatct gctgctctgg aatatttccc ttcgatctta tctcagtcac ttcgttttttg
1740
agaagagtga tgccttgggc atgcttttttt tttttcttttt ttagaaaaca gggagttgaa
1800
gtccaaccta tttaaaaacc ccaccatttg gagaattaca agggtttttgt cctgaattgt
1860
```

                                    4444

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agtgttggca agcccaagcc actcgtgcta actgcttttt gtctcggttg ctattccaag
1920
aacagaagga ggaagttggc caattacagc gtgtgtgcat ggatgtgtgt gggggcgtg
1980
cctctcagaa acgcggccag aagacaagca gggaagtgaa aggtcccagg cacacaccct
2040
gcccattgca ggtggctctt acagctctct ggtgccagca cgggatccct gaagtgactc
2100
agccaggcag acatgagaca tggcggagtg tccaaatgga tcctttattg gtggtagagc
2160
aaaaaaaccc aaacacgata aacctttcaa aagactttct aaggatgata ttggaatgca
2220
ccagccctca catgtgtatg cacatttgcc agaatataag agttttgttt taaatacagt
2280
cttgttagga ttttacgtta ttgttattat ggaaagtgat tgtgatgcta tttatcttca
2340
gggtcactct gggcaaagag aaggtcctca gccatgcccc cagcaccttg cacataggtg
2400
tctgataaaa gtttaagaaa ttaaacactt tttgagcacc aaatatatat agggcattgt
2460
tctggtgggt gtgtcacgct cccagaagac tgaatttatg gtaggatcac tcgcaaggcc
2520
ttgtgaagga gtcttaccta aaacaaaaga aatatcaggg acttttgttg actatttaca
2580
actcagtttt acatttaaat tcaggcagtg ttaatatgcc aaggtaggga atgtgccttt
2640
ttcagagttg gccaggagct cctggctggg acacggagag gcaggtgtgg gcgtaaggcc
2700
tcactcccgg ctgtgaaggt ctctgatcac acagaagcag ccctgcccag cctggtcatt
2760
tgctgtccgc ttttctctgt gaccacagca gccctgaaca accagtatgt gtcttcttct
2820
ccagatagtg aaaaaggtgt ccagataaac ccacctaagt gaaatggcca tcctctaaac
2880
tgggtacctc actgcacagc ttctaggtag ccttccaact taatctaact tgagcctcac
2940
agtaaccctg taaagttagt agagcttgtt cttgtattgt gaccttttt aaaaaaaagg
3000
aactgaggtt cagaatgatt aagggcctgg cccccagggt tgtccagctc cataaggtgg
3060
agctgggcaa gattttgggt ttgctgctcc ctgaagctgg attctttcat acgatactct
3120
ttctcaagaa gggggctccc tgggatctcc aggtgtactg cacttaccct caatccagcc
3180
ccggagaagc aagtgaaaag ggtgggtccc tcataggcta gaatgtgcag ctctttctcc
3240
aggtgggatg tagcacccca aagtagagct ttctgctctg ctcctggaaa aggctaggga
3300
gctggggctg gggctcccct cccatgacca ggcagtggtc accccatggg acaggcacag
3360
ctacttacgc gaacacagca ggttggtgtg gctggctaac taggacctct cgaaagtctc
3420
tgtggggca tgagggagaa aaggccattg ggagaattac tgcctttact ttgggactac
3480
```

```
ttttatgctg ataacttggg atttcttgat agtccttcac ccctgaaacc ccgtatttac
3540
ttaacaagat ttagctctta gttcttcaag taaaattaaa gtctcttgtg taagagccaa
3600
cacatgccca gctgcggatg ggagctgttc ctggacagcc ttctactgcc tgggaagtga
3660
tggaacagga actcagggtg cccttacccc ctccccagac ctgttccctt tctttgactg
3720
acagagcacc atccaggcaa aattagagcg ccaaatggtt ttcttctcaa tcttaaagca
3780
gtataccttt ccacaggctc gtctgtgtcc ctgccactct gagttatcca gaaaccacca
3840
cctacaaatg aggggactca tctagaagac ctctaaggtc cccttttggc tctgaggggt
3900
ctctaataat ccccacttgg aattcagcac cgcaaggaaa ttatgggtat gtgagccata
3960
atatgatggc cagcaggtgg cgctgccttc cacccatggt gatggatggt ttggaaaggg
4020
aatgttggtg ccttttgtgc cacaagttaa gatgctactg ttttaaagga aaaaaaaaaa
4080
aaaaaagtac tgatcttcaa tatgaagaca tgagcttttc tcgcaggaaa ttttcttttt
4140
cacagaactg gtgtcaggaa tcactgaagg gctaaccgtg atagtccttg caagtaagtc
4200
aaggttttat cctgattgga aatagaagac atttccggtt gagagaacag attcgttgga
4260
agcttaactt ttgttgcctc ttaacgccac caaatttttag ggtaatttga ttatgaaaga
4320
gtgaattttt ctggacagaa aagggagagc taccaaattg ttttttttctt tttaaaagga
4380
agtttaatgt ccgttgtatc acaaatcagt gttaaaacac cagaacttta gccaaaataa
4440
atgtcttaca ttacaaaggt aaaaaaaaaa aaaaaaaaaa cccaaaaatt ttttataccg
4500
gaaatttgaa aaaacccccc atttcccccc aacagtgacc cggaacactc ctcattctat
4560
taattacacc attctcccat
4580
```

```
<210> 5274
<211> 185
<212> PRT
<213> Homo sapiens
```

```
<400> 5274
Met Ser Gly Ser Phe Glu Leu Ser Val Gln Asp Leu Asn Asp Leu Leu
1               5                   10                  15
Ser Asp Gly Ser Gly Cys Tyr Ser Leu Pro Ser Gln Pro Cys Asn Glu
            20                  25                  30
Val Thr Pro Arg Ile Tyr Val Gly Asn Ala Ser Val Ala Gln Asp Ile
        35                  40                  45
Pro Lys Leu Gln Lys Leu Gly Ile Thr His Val Leu Asn Ala Ala Glu
    50                  55                  60
Gly Arg Ser Phe Met His Val Asn Thr Asn Ala Asn Phe Tyr Lys Asp
```

```
65                    70                   75                   80
Ser Gly Ile Thr Tyr Leu Gly Ile Lys Ala Asn Asp Thr Gln Glu Phe
                85                   90                   95
Asn Leu Ser Ala Tyr Phe Glu Arg Ala Ala Asp Phe Ile Asp Gln Ala
            100                 105                 110
Leu Ala Gln Lys Asn Gly Arg Val Leu Val His Cys Arg Glu Gly Tyr
        115                 120                 125
Ser Arg Ser Pro Thr Leu Val Ile Ala Tyr Leu Met Met Arg Gln Lys
    130                 135                 140
Met Asp Val Lys Ser Ala Leu Ser Ile Val Arg Gln Asn Arg Glu Ile
145                 150                 155                 160
Gly Pro Asn Asp Gly Phe Leu Ala Gln Leu Cys Gln Leu Asn Asp Arg
                165                 170                 175
Leu Ala Lys Glu Gly Lys Leu Lys Pro
                180                 185
```

```
<210> 5275
<211> 810
<212> DNA
<213> Homo sapiens

<400> 5275
nntctcgctc aggctcggtt ttaccccgga gtctattcga agggggctgc tacgtcagcg
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cgtctcagcg taagacggcg ctattccgct gtaacagctt ccggcgggtc ctggatgttg
120
atgtcctgca tctaacgcgg tgtgaccccc gaagccgagc gagctccgga ggaatttcag
180
tatctgctac ggtaacttca tcagcccgcc aagatggcga tgcaagcggc caagagggcg
240
aacattcgac ttccacctga agtaaatcgg atattgtata taagaaattt gccatacaaa
300
atcacagctg aagaaatgta tgatatattt gggaaatatg gacctattcg tcaaatcaga
360
gtggggaaca cacctgaaac tagaggaaca gcttatgtgg tctatgagga catctttgat
420
gccaagaatg catgtgatca cctatcggga ttcaatgttt gtaacagata ccttgtggtt
480
ttgtactata atgccaacag ggcatttcag aagatggaca caaagaagaa ggaggaacag
540
ttgaagcttc tcaaggagaa atatggcatc aacacagatc caccaaaata aatgttttct
600
acattttcat ttggactaaa tcccacgaat gacaactacc accttttttt cctttttaat
660
taatactaaa tattgtgatt tcttatttga ggttcaaaat gacctgcttg aaactttgat
720
acatattgga atacattatg ttaataaact tgtagctttt tgtgaaacaa aaaaaaaaag
780
tcgacgcggc cggcaattta gtagtagtag
810
```

```
<210> 5276
<211> 125.
<212> PRT
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<213> Homo sapiens

<400> 5276
Met Ala Met Gln Ala Ala Lys Arg Ala Asn Ile Arg Leu Pro Pro Glu
1   5   10   15
Val Asn Arg Ile Leu Tyr Ile Arg Asn Leu Pro Tyr Lys Ile Thr Ala
                20   25   30
Glu Glu Met Tyr Asp Ile Phe Gly Lys Tyr Gly Pro Ile Arg Gln Ile
            35   40   45
Arg Val Gly Asn Thr Pro Glu Thr Arg Gly Thr Ala Tyr Val Val Tyr
        50   55   60
Glu Asp Ile Phe Asp Ala Lys Asn Ala Cys Asp His Leu Ser Gly Phe
65   70   75   80
Asn Val Cys Asn Arg Tyr Leu Val Val Leu Tyr Tyr Asn Ala Asn Arg
                85   90   95
Ala Phe Gln Lys Met Asp Thr Lys Lys Lys Glu Glu Gln Leu Lys Leu
            100   105   110
Leu Lys Glu Lys Tyr Gly Ile Asn Thr Asp Pro Pro Lys
        115   120   125

<210> 5277
<211> 612
<212> DNA
<213> Homo sapiens

<400> 5277
atctacgact tcatggatga cccgaagccc cacaagaagc tgggcccgca ggcctggctg
60
gtggcggcca tcacggccac ggagctgctc atcgtggtga agtacgaccc ccacacgctc
120
accctgtccc tgcccttcta catctcccag tgctggaccc tcggctccgt cctggcgctc
180
acctggaccg tctggcgctt cttcctgcgg gacatcacat tgaggtacaa ggagacccgg
240
tggcagaagt ggcagaacaa ggatgaccag ggcagcaccg tcggcaacgg ggaccagcac
300
ccactggggc tggacgaaga cctgctgggg cctggggtgg ccgagggcga gggagcacca
360
actccaaact gacctgggcc gtggctgcct cgtgagcctc ccagagccca ggcctccgtg
420
gcctcctcct gtgtgagtcc caccaggagc cacgtgcccg gccttgccct caaggttttt
480
tgcttttctc ctgtgcacct ggcgaggctg aaggcgaggg gtggaggagg ccccagcaca
540
gcctcatctc catgtgtaca cgtgtgtacg tgtgtatgcg tgtgtgtacg tgtgtatgcg
600
tgtgtgtacg tg
612

<210> 5278
<211> 123
<212> PRT
<213> Homo sapiens

<400> 5278
Ile Tyr Asp Phe Met Asp Asp Pro Lys Pro His Lys Lys Leu Gly Pro
1   5   10   15
Gln Ala Trp Leu Val Ala Ala Ile Thr Ala Thr Glu Leu Leu Ile Val
        20   25   30
Val Lys Tyr Asp Pro His Thr Leu Thr Leu Ser Leu Pro Phe Tyr Ile
    35   40   45
Ser Gln Cys Trp Thr Leu Gly Ser Val Leu Ala Leu Thr Trp Thr Val
    50   55   60
Trp Arg Phe Phe Leu Arg Asp Ile Thr Leu Arg Tyr Lys Glu Thr Arg
65   70   75   80
Trp Gln Lys Trp Gln Asn Lys Asp Asp Gln Gly Ser Thr Val Gly Asn
                85   90   95
Gly Asp Gln His Pro Leu Gly Leu Asp Glu Asp Leu Leu Gly Pro Gly
                100   105   110
Val Ala Glu Gly Glu Gly Ala Pro Thr Pro Asn
        115   120

<210> 5279
<211> 1225
<212> DNA
<213> Homo sapiens

<400> 5279
atcaatggag cagaggagaa aattctagaa gatttccgaa aaacccacag ccctgatgcc
60
cctgactttc agctgcaggc catgattcag gcagcaggaa agcttgtgtt gattgataaa
120
ctactcccta agctgattgc aggtggccac aaagtactca tcttctccca gatggtgcgc
180
tgcctcgaca tcctagaaga ttatttaatc cagagaagat acacctatga acgtattgat
240
gggcgagtac ggggaaacct cgcccaggct gccatcgacc gcttcagcaa gcctgactca
300
gaccgctttg tcttcttact gtgcaccaga gcgggaggcc tggggatcaa tctcacagct
360
gctgatacct gcatcatatt tgattctgac tggaacccac aaaatgactt gcaggctcag
420
gcccgatgtc accgcatagg ccagagcaaa gctgtgaagg tgtatcgcct catcactcga
480
aattcctacg agcgcgagat gtttgacaag gccagcctaa agctggggct ggacaaggct
540
gttcttcaga catcaaccga aagggcggca ccaatgggta cagcactctc aaaaatggag
600
gtggaggacc tactccggaa aggtgcttat ggagccttaa tggatgaaga agatgaaggc
660
tccaagttct gtgaagaaga catagaccag attctgcaga ggcgaacgca caccatcacc
720
atccagtctg aggggaaagg gtccactttt gccaaggcta gctttgtggc ttcaggaaac
780
agaacagata tttccttaga tgatcctaac ttttggcaga aatgggctaa aatagctgaa
840
ctagacactg aagcaaagaa tgaaaaggaa agcttagtga tcgaccgacc tcgcgtgaga
900

aagcagacca aacactacaa ctcgtttgag gaagacgagc tcatggagtt ttcagagtta
960
gacagcgact cagacgaaag gcccacgaga tccaggcgcc tcaatgacaa agccaggcgc
1020
tacctccgag cggagtgctt ccgggtagag aagaacctgc tcatctttgg ctggggccgg
1080
tggaaggaca tcctgactca tggccgattc aagtggcatc tgaacgagaa ggacatggag
1140
atgatttgcc gtgccctcct ggtgtactgt gtcaagcatt ataagggggga cgagaagatc
1200
aagagtttca tttgggaact gatca
1225

<210> 5280
<211> 408
<212> PRT
<213> Homo sapiens

<400> 5280
Ile Asn Gly Ala Glu Glu Lys Ile Leu Glu Asp Phe Arg Lys Thr His
1   5   10   15
Ser Pro Asp Ala Pro Asp Phe Gln Leu Gln Ala Met Ile Gln Ala Ala
            20   25   30
Gly Lys Leu Val Leu Ile Asp Lys Leu Leu Pro Lys Leu Ile Ala Gly
        35   40   45
Gly His Lys Val Leu Ile Phe Ser Gln Met Val Arg Cys Leu Asp Ile
    50   55   60
Leu Glu Asp Tyr Leu Ile Gln Arg Arg Tyr Thr Tyr Glu Arg Ile Asp
65   70   75   80
Gly Arg Val Arg Gly Asn Leu Arg Gln Ala Ala Ile Asp Arg Phe Ser
                85   90   95
Lys Pro Asp Ser Asp Arg Phe Val Phe Leu Leu Cys Thr Arg Ala Gly
            100   105   110
Gly Leu Gly Ile Asn Leu Thr Ala Ala Asp Thr Cys Ile Ile Phe Asp
        115   120   125
Ser Asp Trp Asn Pro Gln Asn Asp Leu Gln Ala Gln Ala Arg Cys His
    130   135   140
Arg Ile Gly Gln Ser Lys Ala Val Lys Val Tyr Arg Leu Ile Thr Arg
145   150   155   160
Asn Ser Tyr Glu Arg Glu Met Phe Asp Lys Ala Ser Leu Lys Leu Gly
                165   170   175
Leu Asp Lys Ala Val Leu Gln Thr Ser Thr Glu Arg Ala Ala Pro Met
            180   185   190
Gly Thr Ala Leu Ser Lys Met Glu Val Glu Asp Leu Leu Arg Lys Gly
        195   200   205
Ala Tyr Gly Ala Leu Met Asp Glu Glu Asp Glu Gly Ser Lys Phe Cys
    210   215   220
Glu Glu Asp Ile Asp Gln Ile Leu Gln Arg Arg Thr His Thr Ile Thr
225   230   235   240
Ile Gln Ser Glu Gly Lys Gly Ser Thr Phe Ala Lys Ala Ser Phe Val
                245   250   255
Ala Ser Gly Asn Arg Thr Asp Ile Ser Leu Asp Asp Pro Asn Phe Trp
            260   265   270
Gln Lys Trp Ala Lys Ile Ala Glu Leu Asp Thr Glu Ala Lys Asn Glu

```
            275                    280                    285
Lys Glu Ser Leu Val Ile Asp Arg Pro Arg Val Arg Lys Gln Thr Lys
     290                    295                    300
His Tyr Asn Ser Phe Glu Glu Asp Glu Leu Met Glu Phe Ser Glu Leu
305                    310                    315                    320
Asp Ser Asp Ser Asp Glu Arg Pro Thr Arg Ser Arg Arg Leu Asn Asp
                325                    330                    335
Lys Ala Arg Arg Tyr Leu Arg Ala Glu Cys Phe Arg Val Glu Lys Asn
                340                    345                    350
Leu Leu Ile Phe Gly Trp Gly Arg Trp Lys Asp Ile Leu Thr His Gly
                355                    360                    365
Arg Phe Lys Trp His Leu Asn Glu Lys Asp Met Glu Met Ile Cys Arg
     370                    375                    380
Ala Leu Leu Val Tyr Cys Val Lys His Tyr Lys Gly Asp Glu Lys Ile
385                    390                    395                    400
Lys Ser Phe Ile Trp Glu Leu Ile
                405
```

```
<210> 5281
<211> 336
<212> DNA
<213> Homo sapiens


<400> 5281
tgatcaacaa tacttttcag agtctcttgg ggtgtgatga gttaagcttc ctactggatg
60
aaatgcaaac cgcccaaaat aaataccagg agcttaagaa tatttgcagc tatagggctc
120
aggcattcct ggtactcaca ggtctgacag ccacagttgg agacacagct atttcttcag
180
aagagaaaac acaacgcatg tcattaatga gacatcacat gggacaatca ttgtccaaag
240
aagttgcaca tgtcctcacc aaacctggag cagatcacga ttgggaaaac ctagagaaag
300
acttgagatt gctcattaat ggggattatg aagaag
336


<210> 5282
<211> 91
<212> PRT
<213> Homo sapiens


<400> 5282
Met Gln Thr Ala Gln Asn Lys Tyr Gln Glu Leu Lys Asn Ile Cys Ser
1               5                   10                  15
Tyr Arg Ala Gln Ala Phe Leu Val Leu Thr Gly Leu Thr Ala Thr Val
                20                  25                  30
Gly Asp Thr Ala Ile Ser Ser Glu Glu Lys Thr Gln Arg Met Ser Leu
            35                  40                  45
Met Arg His His Met Gly Gln Ser Leu Ser Lys Glu Val Ala His Val
     50                  55                  60
Leu Thr Lys Pro Gly Ala Asp His Asp Trp Glu Asn Leu Glu Lys Asp
65                  70                  75                  80
Leu Arg Leu Leu Ile Asn Gly Asp Tyr Glu Glu
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85   90

<210> 5283
<211> 1989
<212> DNA
<213> Homo sapiens

<400> 5283
naggccgctt gggcgcactt gccgggtcac cttgtcccgg aggagaaatg gcttccctga
60
ggcaagtgta acctacattc ccagcccacc agcctgacgc ccagccaggg agagagtacc
120
atggatggca tcattgaaca gaagagcatg ctggtgcaca gtaaaatcag tgatgctggc
180
aagaggaatg gtttaattaa caccagaaac ttgatggccg agagcagaga tggtctggtg
240
tctgtttacc cagcgcccca gtaccagagc caccgggtgg gggccagcac agtgccggcc
300
agcctggaca gcagcaggag tgagccgatg cagcagctgc tggaccccaa caccctgcag
360
cagtcagtgg agtcccgcta ccggcccaac atcatcctct attcagaggg cgtgctgcgc
420
tcctgggggg acggtgtggc cgccgactgc tgcgagacca ccttcatcga ggaccggtcg
480
cccaccaaag acagcctcga gtacccggat gggaagttca ttgacctctc agctgatgac
540
ataaaaatcc acaccctgtc ctacgatgtg gaggaggagg aggagttcca ggagctggag
600
agcgactact caagcgacac agagagtgag gacaatttcc tcatgatgcc cccgcgggac
660
cacctgggcc tcagtgtctt ctccatgctc tgctgcttct ggcctctggg catcgcagcc
720
ttctacttgt cccatgagac caacaaagcc gtggccaagg gggacttgca ccaggccagc
780
accagctccc ggcgggccct attcctggca gtgctgtcca tcaccattgg gactggcgtc
840
tatgtgggcg tggccgtggc cctcatcgcc tacctctcca gaacaaccca cctgtgagct
900
tcctgcgaat ggaggggggag cacccggggc caggtctgtg tggacgtgga ggaagcaggc
960
ataccgcatg atgctgtaca gtacaaatga ttgccaaatg atgccacgaa gccctgggat
1020
ttcctaccca tggatttatt ttgtttttat cctttaattt catgttcaca gcactgtgta
1080
gagcaccaga cagacgggca ctgctaatcc ttccaaagga aagctccaaa gatcccagcc
1140
cgcaaggctg tctctggatg gattctggtg gatgaatggc aacgcggctc tctgcagcct
1200
gccagtgccc agagtgccac cgcattagca atatacaaac agtccaaaaa agtgtttatt
1260
ttttatggaa tacggtgcaa taggcagagg acaagggaca catcactctt ctgtctgtgg
1320
ccctgctgga gtcctttgtg ccccccggag tccacacgcc ttccctgcaa gacgagaatg
1380

4452

gggctgggaa gaaagaggca acaccacggc tggcaggagc cccgctgcac tgctctgcag
1440

acccattggc ctgaccctga gaagcagagc cagcaaagcc cgggacctgc ccctctttct
1500

ttcccttcac accaccccag cctcaggatg tcaagccacc tccggaacgt gtctacactc
1560

cacagctacc ccgcagcaat acgcactctt gggacctcgc tgatctagga tggggaggca
1620

ggccaccgcc cctcccaaga ctcctcaaga aagagcccg cggttgctcc ggaaactcga
1680

ggcactgcag ctatgggcac tgcctcagcc taaagacaca ggggcgcctc ccaatcaccg
1740

cgctggcgga tgctcacccc gtcataagca gaaactagtg atcctggaaa tgagatgggc
1800

cttactctgt cgactaaatg aatagctatt ttcttgtcat tttttaaagt gcaactcttg
1860

cttcatgctg cttaagttac cagatgaatg ctgagaaata agtaatcaca gacattttaa
1920

taccatttca ttgctgtttt acgagtgttc attacttaac aaaaaattat cttttagctt
1980

tttcgctta
1989

<210> 5284
<211> 258
<212> PRT
<213> Homo sapiens

<400> 5284
Met Asp Gly Ile Ile Glu Gln Lys Ser Met Leu Val His Ser Lys Ile
1   5   10   15
Ser Asp Ala Gly Lys Arg Asn Gly Leu Ile Asn Thr Arg Asn Leu Met
            20   25   30
Ala Glu Ser Arg Asp Gly Leu Val Ser Val Tyr Pro Ala Pro Gln Tyr
        35   40   45
Gln Ser His Arg Val Gly Ala Ser Thr Val Pro Ala Ser Leu Asp Ser
    50   55   60
Ser Arg Ser Glu Pro Met Gln Gln Leu Leu Asp Pro Asn Thr Leu Gln
65   70   75   80
Gln Ser Val Glu Ser Arg Tyr Arg Pro Asn Ile Ile Leu Tyr Ser Glu
                85   90   95
Gly Val Leu Arg Ser Trp Gly Asp Gly Val Ala Ala Asp Cys Cys Glu
            100   105   110
Thr Thr Phe Ile Glu Asp Arg Ser Pro Thr Lys Asp Ser Leu Glu Tyr
        115   120   125
Pro Asp Gly Lys Phe Ile Asp Leu Ser Ala Asp Asp Ile Lys Ile His
    130   135   140
Thr Leu Ser Tyr Asp Val Glu Glu Glu Glu Phe Gln Glu Leu Glu
145   150   155   160
Ser Asp Tyr Ser Ser Asp Thr Glu Ser Glu Asp Asn Phe Leu Met Met
                165   170   175
Pro Pro Arg Asp His Leu Gly Leu Ser Val Phe Ser Met Leu Cys Cys
            180   185   190
Phe Trp Pro Leu Gly Ile Ala Ala Phe Tyr Leu Ser His Glu Thr Asn

```
            195                  200                  205
Lys Ala Val Ala Lys Gly Asp Leu His Gln Ala Ser Thr Ser Ser Arg
    210                  215                  220
Arg Ala Leu Phe Leu Ala Val Leu Ser Ile Thr Ile Gly Thr Gly Val
225                  230                  235                  240
Tyr Val Gly Val Ala Val Ala Leu Ile Ala Tyr Leu Ser Lys Asn Asn
                245                  250                  255
His Leu
```

```
<210> 5285
<211> 2155
<212> DNA
<213> Homo sapiens

<400> 5285
nnacgcgtgc agcaaagaat ggaggagtcg gaacccgaac ggaagcgggc tcgcaccgac
60
gaggtgcctg ccggaggaag ccgctccgag gcggaagatg aggacgacga ggactacgtg
120
ccctatgtgc cgttacggca gcgccggcag ctactgctcc agaagctgct gcagcgaaga
180
cgcaagggag ctgcggagga agagcagcag gacagcggta gtgaaccccg gggagatgag
240
gacgacatcc cgctaggccc tcagtccaac gtcagcctcc tggatcagca ccagcacctt
300
aaagagaagg ctgaagcgcg caaagagtct gccaaggaga agcagctgaa ggaagaagag
360
aagatcctgg agagtgttgc cgagggccga gcattgatgt cagtgaagga gatggctaag
420
ggcattacgt atgatgaccc catcaaaacc agctggactc cacccgttta tgttctgagc
480
atgtctgaag agcgacatga gcgcgtgcgg aagaaatacc acatcctggt ggagggagac
540
ggtatcccac cacccatcaa gagcttcaag gaaatgaagt ttcctgcagc catcctgaga
600
ggcctgaaga agaaaggcat tcaccaccca acacccattc agatccaggg catccccacc
660
attctatctg gccgtgacat gataggcatc gctttcacgg gttcaggcaa gacactggtg
720
ttcacgttgc ccgtcatcat gttctgcctg aacaagagag agaggttacc cttctcaaag
780
cgcgaggggc cctatggact catcatctgc ccctcgcggg agctggcccg gcagacccat
840
ggcatcctgg agtactactg ccgcctgctg caggaggaca gctcaccact cctgcgctgc
900
gccctctgca ttgggggcat gtccgtgaaa gagcagatgg agaccatccg acacggtgta
960
cacatgatgg tggccacccc ggggcgcctc atggatttgc tgcagaagaa gatggtcagc
1020
ctagacatct gtcgctacct ggccctggac gaggctgacc gcatgatcga catgggcttc
1080
gagggtgaca tccgtaccat cttctcctac ttcaagggcc agcgacagac cctgctcttc
1140
```

```
agtgccacca tgccgaagaa gattcagaac tttgctaaga gtgcccttgt aaagcctgtg
1200
accatcaatg tggggcgtgc tggggctgcc agcctggatg tcatccagga ggtagaatat
1260
gtgaaggagg aggccaagat ggtgtacctg ctcgagtgcc tgcagaagac accccgcct
1320
gtactcatct ttgcagagaa gaaggcagac gtggacgcca tccacgagta cctgctgctc
1380
aaggggggttg aggccgtagc catccatggg ggcaaagacc aggaggaacg gactaaggcc
1440
atcgaggcat tccgggaggg caagaaggat gtcctagtag ccacagacgt tgcctccaag
1500
ggcctggact tccctgccat ccagcacgtc atcaattatg acatgccaga ggagattgag
1560
aactatgtac accggattgg ccgcaccggg cgctcgggaa acacaggcat cgccactacc
1620
ttcatcaaca aagcgtgtga tgagtcagtg ctgatggacc tcaaagcgct gctgctagaa
1680
gccaagcaga aggtgccgcc cgtgctgcag gtgctgcatt gcgggggatga gtccatgctg
1740
gacattggag gagagcgcgg ctgtgccttc tgcggggggcc tgggtcatcg gatcactgac
1800
tgccccaaac tcgaggctat gcagaccaag caggtcagca acatcggtcg caaggactac
1860
ctggcccaca gctccatgga cttctgagcc gacagtcttc ccttctctcc aagaggcctc
1920
agtccccaag actgccacca gtctacacat acagcagccc cctggacaga atcagcattt
1980
cagctcagct ggcctggaat gggccaggct ggtcctggct gcctgttccc tgtgctcttc
2040
agaattactg tttttgtttc cttttacccc agctgccatt aaagcccaaa cctctagccc
2100
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa
2155
```

<210> 5286
<211> 628
<212> PRT
<213> Homo sapiens

<400> 5286

```
Xaa Arg Val Gln Gln Arg Met Glu Glu Ser Glu Pro Glu Arg Lys Arg
1               5                  10                  15
Ala Arg Thr Asp Glu Val Pro Ala Gly Gly Ser Arg Ser Glu Ala Glu
            20                  25                  30
Asp Glu Asp Asp Glu Asp Tyr Val Pro Tyr Val Pro Leu Arg Gln Arg
        35                  40                  45
Arg Gln Leu Leu Leu Gln Lys Leu Leu Gln Arg Arg Arg Lys Gly Ala
    50                  55                  60
Ala Glu Glu Glu Gln Gln Asp Ser Gly Ser Glu Pro Arg Gly Asp Glu
65                  70                  75                  80
Asp Asp Ile Pro Leu Gly Pro Gln Ser Asn Val Ser Leu Leu Asp Gln
                85                  90                  95
His Gln His Leu Lys Glu Lys Ala Glu Ala Arg Lys Glu Ser Ala Lys
```

```
                   100                    105                    110
Glu Lys Gln Leu Lys Glu Glu Glu Lys Ile Leu Glu Ser Val Ala Glu
        115                    120                    125
Gly Arg Ala Leu Met Ser Val Lys Glu Met Ala Lys Gly Ile Thr Tyr
    130                    135                    140
Asp Asp Pro Ile Lys Thr Ser Trp Thr Pro Pro Arg Tyr Val Leu Ser
145                    150                    155                    160
Met Ser Glu Glu Arg His Glu Arg Val Arg Lys Lys Tyr His Ile Leu
                165                    170                    175
Val Glu Gly Asp Gly Ile Pro Pro Ile Lys Ser Phe Lys Glu Met
            180                    185                    190
Lys Phe Pro Ala Ala Ile Leu Arg Gly Leu Lys Lys Lys Gly Ile His
        195                    200                    205
His Pro Thr Pro Ile Gln Ile Gln Gly Ile Pro Thr Ile Leu Ser Gly
    210                    215                    220
Arg Asp Met Ile Gly Ile Ala Phe Thr Gly Ser Gly Lys Thr Leu Val
225                    230                    235                    240
Phe Thr Leu Pro Val Ile Met Phe Cys Leu Glu Gln Glu Lys Arg Leu
                245                    250                    255
Pro Phe Ser Lys Arg Glu Gly Pro Tyr Gly Leu Ile Ile Cys Pro Ser
            260                    265                    270
Arg Glu Leu Ala Arg Gln Thr His Gly Ile Leu Glu Tyr Tyr Cys Arg
        275                    280                    285
Leu Leu Gln Glu Asp Ser Ser Pro Leu Leu Arg Cys Ala Leu Cys Ile
    290                    295                    300
Gly Gly Met Ser Val Lys Glu Gln Met Glu Thr Ile Arg His Gly Val
305                    310                    315                    320
His Met Met Val Ala Thr Pro Gly Arg Leu Met Asp Leu Leu Gln Lys
                325                    330                    335
Lys Met Val Ser Leu Asp Ile Cys Arg Tyr Leu Ala Leu Asp Glu Ala
            340                    345                    350
Asp Arg Met Ile Asp Met Gly Phe Glu Gly Asp Ile Arg Thr Ile Phe
        355                    360                    365
Ser Tyr Phe Lys Gly Gln Arg Gln Thr Leu Leu Phe Ser Ala Thr Met
    370                    375                    380
Pro Lys Lys Ile Gln Asn Phe Ala Lys Ser Ala Leu Val Lys Pro Val
385                    390                    395                    400
Thr Ile Asn Val Gly Arg Ala Gly Ala Ala Ser Leu Asp Val Ile Gln
                405                    410                    415
Glu Val Glu Tyr Val Lys Glu Glu Ala Lys Met Val Tyr Leu Leu Glu
            420                    425                    430
Cys Leu Gln Lys Thr Pro Pro Pro Val Leu Ile Phe Ala Glu Lys Lys
        435                    440                    445
Ala Asp Val Asp Ala Ile His Glu Tyr Leu Leu Leu Lys Gly Val Glu
    450                    455                    460
Ala Val Ala Ile His Gly Gly Lys Asp Gln Glu Glu Arg Thr Lys Ala
465                    470                    475                    480
Ile Glu Ala Phe Arg Glu Gly Lys Lys Asp Val Leu Val Ala Thr Asp
                485                    490                    495
Val Ala Ser Lys Gly Leu Asp Phe Pro Ala Ile Gln His Val Ile Asn
            500                    505                    510
Tyr Asp Met Pro Glu Glu Ile Glu Asn Tyr Val His Arg Ile Gly Arg
        515                    520                    525
Thr Gly Arg Ser Gly Asn Thr Gly Ile Ala Thr Thr Phe Ile Asn Lys
```

```
        530                    535                    540
Ala Cys Asp Glu Ser Val Leu Met Asp Leu Lys Ala Leu Leu Leu Glu
545                    550                    555                    560
Ala Lys Gln Lys Val Pro Pro Val Leu Gln Val Leu His Cys Gly Asp
                   565                    570                    575
Glu Ser Met Leu Asp Ile Gly Gly Glu Arg Gly Cys Ala Phe Cys Gly
               580                    585                    590
Gly Leu Gly His Arg Ile Thr Asp Cys Pro Lys Leu Glu Ala Met Gln
           595                    600                    605
Thr Lys Gln Val Ser Asn Ile Gly Arg Lys Asp Tyr Leu Ala His Ser
       610                    615                    620
Ser Met Asp Phe
625
```

```
<210> 5287
<211> 581
<212> DNA
<213> Homo sapiens
```

```
<400> 5287
nnagagcctc cagagcctcc gggtctgggc ggcgcttcgg ctcctcccga gccgcctgct
60
agccccgcgc cgcactccat ccccacaggc tggggacggg ccaggtgcgg ctgtgtgggt
120
tcgggagcgg agttgcagaa tccaaggacc cattttgttc tttctccgca ctgctttatg
180
ggaggcatta tggcccccaa agacataatg acaaatactc atgctaaatc catcctcaat
240
tcaatgaact ccctcaggaa gagcaatacc ctctgtgatg tgacattgag agtagagcag
300
aaagacttcc ctgcccatcg gattgtgctg gctgcctgta gtgattactt ctgtgccatg
360
ttcactagtg agctctcaga aagggggaaa ccttatgttg acatccaagg tttgactgcc
420
tctaccatgg aaattttatt ggactttgtg tacacagaaa cggtacatgt gacagtggag
480
aatgtacaag aactgcttcc tgcagcctgt ctgcttcagt tgaaaggtgt gaaacaagcc
540
tgctgtgagt cttagaaag tcagttggac ccttcacgcg t
581
```

```
<210> 5288
<211> 193
<212> PRT
<213> Homo sapiens
```

```
<400> 5288
Xaa Glu Pro Pro Glu Pro Pro Gly Leu Gly Gly Ala Ser Ala Pro Pro
1                 5                    10                   15
Glu Pro Pro Ala Ser Pro Ala Pro His Ser Ile Pro Thr Gly Trp Gly
           20                    25                    30
Arg Ala Arg Cys Gly Cys Val Gly Ser Gly Ala Glu Leu Gln Asn Pro
       35                    40                    45
Arg Thr His Phe Val Leu Ser Pro His Cys Phe Met Gly Gly Ile Met
```

```
        50                    55                    60
Ala Pro Lys Asp Ile Met Thr Asn Thr His Ala Lys Ser Ile Leu Asn
65                    70                    75                    80
Ser Met Asn Ser Leu Arg Lys Ser Asn Thr Leu Cys Asp Val Thr Leu
                 85                    90                    95
Arg Val Glu Gln Lys Asp Phe Pro Ala His Arg Ile Val Leu Ala Ala
            100                   105                   110
Cys Ser Asp Tyr Phe Cys Ala Met Phe Thr Ser Glu Leu Ser Glu Lys
            115                   120                   125
Gly Lys Pro Tyr Val Asp Ile Gln Gly Leu Thr Ala Ser Thr Met Glu
        130                   135                   140
Ile Leu Leu Asp Phe Val Tyr Thr Glu Thr Val His Val Thr Val Glu
145                   150                   155                   160
Asn Val Gln Glu Leu Leu Pro Ala Ala Cys Leu Leu Gln Leu Lys Gly
                 165                   170                   175
Val Lys Gln Ala Cys Cys Glu Phe Leu Glu Ser Gln Leu Asp Pro Ser
                 180                   185                   190
Arg
```

```
<210> 5289
<211> 361
<212> DNA
<213> Homo sapiens


<400> 5289
agatctctgt acacatgtta caccagacag ctatattcca tgccttgcag acctgtgcaa
60
agcactatgg gaagttatgc tcagctatta taggactatg gaatggcatg aaaagcatga
120
caatgaggat actgcttcag cttctgaagg ggaagtatat gatagggtcc tgaagaaact
180
tattttgatc ggggctacat taaaaaagaa attagaacat ggacttacac gaatatggca
240
ggatgttcag ctaaaagtaa aaacctactt gcttggaact gatttgtcta tattcaaata
300
tgatgatttc atctttgttt tggatataat cagcaggttg atgcaagttg agaagaatt
360
c
361


<210> 5290
<211> 95
<212> PRT
<213> Homo sapiens


<400> 5290
Met Leu Ser Tyr Tyr Arg Thr Met Glu Trp His Glu Lys His Asp Asn
  1               5                   10                  15
Glu Asp Thr Ala Ser Ala Ser Glu Gly Glu Val Tyr Asp Arg Val Leu
            20                  25                  30
Lys Lys Leu Ile Leu Ile Gly Ala Thr Leu Lys Lys Lys Leu Glu His
        35                  40                  45
Gly Leu Thr Arg Ile Trp Gln Asp Val Gln Leu Lys Val Lys Thr Tyr
```

```
          50                    55                    60
Leu Leu Gly Thr Asp Leu Ser Ile Phe Lys Tyr Asp Asp Phe Ile Phe
65                    70                    75                    80
Val Leu Asp Ile Ile Ser Arg Leu Met Gln Val Gly Glu Glu Phe
                  85                    90                    95
```

<210> 5291
<211> 767
<212> DNA
<213> Homo sapiens

<400> 5291
```
gtcgggaggt tctttgcgct gatagcaggg acgaagacca caccattgac caagaagatg
60
aagatggcca cgcagaagac tcccagcagg gcgtacatgc ccagctctag ctcagtgaca
120
tgctgagggg cagggaccat ctcctcctcc tcttcctcct cctccctggc tttggtctcc
180
tccttcctgg cctcctcctc tgcccgctca aacttgcccc tcacacctgt gttgcccccg
240
acactgcctg ccacctgccg tttaccaccc atggtggctt ctgtggctgg tgggctccaa
300
gcagggctgg atggggagag caggggctgg agtggaggca ggggcagcc ccacccaggc
360
ggtgccagag gccaaaggca cacggtggcg gccccggcgn gcagggctcg ggcgggtgca
420
gagccacatg cagcggcagc ccctcggcgc ctgccccact caccaccacc ccgagctggg
480
caccctgctc ctcagctggc aggatggcac caggctcctc ggctgaaacg gacagtccca
540
gtcaggcggt cgtagagctc agctgggcca cagtgtgatc agagaaggac agccataggg
600
agagggccac ctcctgtggg gcacacagac acaggcagag acatgcgagg gcacgcacgc
660
atgcacagag aaaccactcc cacagagaca ggccacatgg aggagagacc agagagaaaa
720
cagagacaca ggcagataga caaaacacag ggagagaggg gacgcgt
767
```

<210> 5292
<211> 142
<212> PRT
<213> Homo sapiens

<400> 5292
```
Gly Ala Gly Thr Ile Ser Ser Ser Ser Ser Ser Ser Ser Leu Ala Leu
 1               5                    10                   15
Val Ser Ser Phe Leu Ala Ser Ser Ser Ala Arg Ser Asn Leu Pro Leu
              20                   25                   30
Thr Pro Val Leu Pro Pro Thr Leu Pro Ala Thr Cys Arg Leu Pro Pro
              35                   40                   45
Met Val Ala Ser Val Ala Gly Gly Leu Gln Ala Gly Leu Asp Gly Glu
    50                   55                   60
Ser Arg Gly Trp Ser Gly Gly Arg Gly Gln Pro His Pro Gly Gly Ala
```

```
65                       70                      75                      80
Arg Gly Gln Arg His Thr Val Ala Ala Pro Ala Xaa Arg Ala Arg Ala
                85                      90                      95
Gly Ala Glu Pro His Ala Ala Ala Ala Pro Arg Arg Leu Pro His Ser
            100                     105                     110
Pro Pro Pro Arg Ala Gly His Pro Ala Pro Gln Leu Ala Gly Trp His
        115                     120                     125
Gln Ala Pro Arg Leu Lys Arg Thr Val Pro Val Arg Arg Ser
    130                     135                     140
```

<210> 5293
<211> 1428
<212> DNA
<213> Homo sapiens

<400> 5293
tcagactgtg tgggtggttt ccccggccgc agctccgtac gggcttggat tgctgggcct
60
cggtgcaccc cagcctcccc cactcgggtt ctgagcttga gctggcggct ctttaactct
120
gcttcactgt tgctcttggc aacatccact tccgggagcg agtgccgttt cccccgctca
180
ccgcgggcta gggagcgtgg gattccggac tgtgagcggc tgttagtgcg tcgcagctgc
240
tggcgatccg gcgaccctcg gccggcagga cccgcgggcc acgcagccgg ggccttctca
300
acgcctcagt acctcggcgg gaccgccatg ttctgctgc acgtgaagcg gggcgacgag
360
agccagttcc tgctgcaggc gcctgggagt accgagctgg aggagctcac ggtgcaggtg
420
gcccgggtct ataatgggcg gctcaaggtg cagcgcctct gctcagaaat ggaagaatta
480
gccgaacatg gcatatttct ccctcctaat atgcaaggac tgaccgatga tcagattgaa
540
gaattgaaat tgaaggatga atggggtgaa aaatgcgtac ccagcggagg tgcagtgttt
600
aaaaaggatg atattggacg aaggaatggg caagctccaa atgagaagat gaagcaagtg
660
ttaaagaaga ctatagaaga agccaaggca ataatatcta agaaacaagt ggaagccggt
720
gtctgtgtta ccatggagat ggtgaaagat gccttggacc agcttcgagg cgcggtgatg
780
attgtttacc ccatggggtt gccaccgtat gatcccatcc gcatggagtt tgaaaataag
840
gaagacttgt cgggaacaca ggcagggctc aacgtcatta agaggcaga ggcgcagctg
900
tggtgggcag ccaaggagct gagaagaacg aagaagcttt cagactacgt ggggaagaat
960
gaaaaaacca aaattatcgc caagattcag caaaggggac agggagctcc agcccgagag
1020
cctattatta gcagtgagga gcagaagcag ctgatgctgt actatcacag aagacaagag
1080
gagctcaaga gattggaaga aaatgatgat gatgcctatt taaactcacc atgggcggat
1140
```

4460

```
aacactgctt tgaaaagaca ttttcatgga gtgaaagaca taaagtggag accaagatga
1200
agttcaccag ctgatgacac ttccaaagag attagctcac ctttctccta ggcaattata
1260
atttaaaaaa aaaaaaaagg ccacttactg ccctctgtaa aagatgttaa catttctagt
1320
tttctttttag tgtgaatttt taaaatagca gttattcaag gttttagaac ttaataaata
1380
cctagtcaga agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa
1428
```

<210> 5294
<211> 290
<212> PRT
<213> Homo sapiens

<400> 5294
```
Met Val Leu Leu His Val Lys Arg Gly Asp Glu Ser Gln Phe Leu Leu
  1               5                  10                  15
Gln Ala Pro Gly Ser Thr Glu Leu Glu Glu Leu Thr Val Gln Val Ala
             20                  25                  30
Arg Val Tyr Asn Gly Arg Leu Lys Val Gln Arg Leu Cys Ser Glu Met
         35                  40                  45
Glu Glu Leu Ala Glu His Gly Ile Phe Leu Pro Pro Asn Met Gln Gly
     50                  55                  60
Leu Thr Asp Asp Gln Ile Glu Glu Leu Lys Leu Lys Asp Glu Trp Gly
65                  70                  75                  80
Glu Lys Cys Val Pro Ser Gly Gly Ala Val Phe Lys Lys Asp Asp Ile
                 85                  90                  95
Gly Arg Arg Asn Gly Gln Ala Pro Asn Glu Lys Met Lys Gln Val Leu
                100                 105                 110
Lys Lys Thr Ile Glu Glu Ala Lys Ala Ile Ile Ser Lys Lys Gln Val
            115                 120                 125
Glu Ala Gly Val Cys Val Thr Met Glu Met Val Lys Asp Ala Leu Asp
        130                 135                 140
Gln Leu Arg Gly Ala Val Met Ile Val Tyr Pro Met Gly Leu Pro Pro
145                 150                 155                 160
Tyr Asp Pro Ile Arg Met Glu Phe Glu Asn Lys Glu Asp Leu Ser Gly
                165                 170                 175
Thr Gln Ala Gly Leu Asn Val Ile Lys Glu Ala Glu Ala Gln Leu Trp
                180                 185                 190
Trp Ala Ala Lys Glu Leu Arg Arg Thr Lys Lys Leu Ser Asp Tyr Val
            195                 200                 205
Gly Lys Asn Glu Lys Thr Lys Ile Ile Ala Lys Ile Gln Gln Arg Gly
        210                 215                 220
Gln Gly Ala Pro Ala Arg Glu Pro Ile Ile Ser Ser Glu Glu Gln Lys
225                 230                 235                 240
Gln Leu Met Leu Tyr Tyr His Arg Arg Gln Glu Glu Leu Lys Arg Leu
                245                 250                 255
Glu Glu Asn Asp Asp Asp Ala Tyr Leu Asn Ser Pro Trp Ala Asp Asn
            260                 265                 270
Thr Ala Leu Lys Arg His Phe His Gly Val Lys Asp Ile Lys Trp Arg
            275                 280                 285
Pro Arg
```

290

<210> 5295
<211> 1451
<212> DNA
<213> Homo sapiens

<400> 5295
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1451

<210> 5296
<211> 133
<212> PRT
<213> Homo sapiens

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Leu Asp Thr Lys Arg Asn Gln Asn Arg Glu Gly Leu Arg Ala Leu Gln
        35   40   45
Lys Asp Leu Ser Leu Ser Glu Asp Val Met Val Cys Phe Gly Asn Met
    50   55   60
Phe Ile Lys Met Pro His Pro Glu Thr Lys Glu Met Ile Glu Lys Asp
65   70   75   80
Gln Asp His Leu Asp Lys Glu Ile Glu Lys Leu Arg Lys Gln Leu Lys
                85   90   95
Val Lys Val Asn Arg Leu Phe Glu Ala Gln Gly Lys Pro Glu Leu Lys
            100   105   110
Gly Phe Asn Leu Asn Pro Leu Asn Gln Asp Glu Leu Lys Ala Leu Lys
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Val Ile Leu Lys Gly
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<210> 5297
<211> 5318
<212> DNA
<213> Homo sapiens

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180
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420
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480
aaaaaacaca aacgatttca ggaacttgac agatttatgc actattatac aagatttaaa
540

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2160
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3780
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4465

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5318
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<210> 5298

<211> 663
<212> PRT
<213> Homo sapiens

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            20   25   30
Gly Lys Gly His Leu Phe Cys Trp Glu Cys Leu Gly Glu Ala His Glu
        35   40   45
Pro Cys Asp Cys Gln Thr Trp Lys Asn Trp Leu Gln Lys Ile Thr Glu
    50   55   60
Met Lys Pro Glu Glu Leu Val Gly Val Ser Glu Ala Tyr Glu Asp Ala
65   70   75   80
Ala Asn Cys Leu Trp Leu Leu Thr Asn Ser Lys Pro Cys Ala Asn Cys
                85   90   95
Lys Ser Pro Ile Gln Lys Asn Glu Gly Cys Asn His Met Gln Cys Ala
            100   105   110
Lys Cys Lys Tyr Asp Phe Cys Trp Ile Cys Leu Glu Glu Trp Lys Lys
            115   120   125
His Ser Ser Ser Thr Gly Gly Tyr Tyr Gly Cys Thr Arg Tyr Glu Val
            130   135   140
Ile Gln His Val Glu Glu Gln Ser Lys Glu Met Thr Val Glu Ala Glu
145   150   155   160
Lys Lys His Lys Arg Phe Gln Glu Leu Asp Arg Phe Met His Tyr Tyr
                165   170   175
Thr Arg Phe Lys Asn His Glu His Ser Tyr Gln Leu Glu Gln Arg Leu
                180   185   190
Leu Lys Thr Ala Lys Glu Lys Met Glu Gln Leu Ser Arg Ala Leu Lys
            195   200   205
Glu Thr Glu Gly Gly Cys Pro Asp Thr Thr Phe Ile Glu Asp Ala Val
    210   215   220
His Val Leu Leu Lys Thr Arg Arg Ile Leu Lys Cys Ser Tyr Pro Tyr
225   230   235   240
Gly Phe Phe Leu Glu Pro Lys Ser Thr Lys Lys Glu Ile Phe Glu Leu
                245   250   255
Met Gln Thr Asp Leu Glu Met Val Thr Glu Asp Leu Ala Gln Lys Val
                260   265   270
Asn Arg Pro Tyr Leu Arg Thr Pro Arg His Lys Ile Ile Lys Ala Ala
            275   280   285
Cys Leu Val Gln Gln Lys Arg Gln Glu Phe Leu Ala Ser Val Ala Arg
    290   295   300
Gly Val Ala Pro Ala Asp Ser Pro Glu Ala Pro Arg Arg Ser Phe Ala
305   310   315   320
Gly Gly Thr Trp Asp Trp Glu Tyr Leu Gly Phe Ala Ser Pro Glu Glu
                325   330   335
Tyr Ala Glu Phe Gln Tyr Arg Arg His Arg Gln Arg Arg Arg Gly
                340   345   350
Asp Val His Ser Leu Leu Ser Asn Pro Pro Asp Pro Asp Glu Pro Ser
            355   360   365
Glu Ser Thr Leu Asp Ile Pro Glu Gly Gly Ser Ser Ser Arg Arg Pro
            370   375   380
Gly Thr Ser Val Val Ser Ser Ala Ser Met Ser Val Leu His Ser Ser

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Ser Leu Arg Asp Tyr Thr Pro Ala Ser Arg Ser Glu Asn Gln Asp Ser
                    405                      410                      415
Leu Gln Ala Leu Ser Ser Leu Asp Glu Asp Asp Pro Asn Ile Leu Leu
                420                      425                      430
Ala Ile Gln Leu Ser Leu Gln Glu Ser Gly Leu Ala Leu Asp Glu Glu
            435                      440                      445
Thr Arg Asp Phe Leu Ser Asn Glu Ala Ser Leu Gly Ala Ile Gly Thr
        450                      455                      460
Ser Leu Pro Ser Arg Leu Asp Ser Val Pro Arg Asn Thr Asp Ser Pro
465                      470                      475                      480
Arg Ala Ala Leu Ser Ser Ser Glu Leu Leu Glu Leu Gly Asp Ser Leu
                    485                      490                      495
Met Arg Leu Gly Ala Glu Asn Asp Pro Phe Ser Thr Asp Thr Leu Ser
                500                      505                      510
Ser His Pro Leu Ser Glu Ala Arg Ser Asp Phe Cys Pro Ser Ser Ser
            515                      520                      525
Asp Pro Asp Ser Ala Gly Gln Asp Pro Asn Ile Asn Asp Asn Leu Leu
        530                      535                      540
Gly Asn Ile Met Ala Trp Phe His Asp Met Asn Pro Gln Ser Ile Ala
545                      550                      555                      560
Leu Ile Pro Pro Ala Thr Thr Glu Ile Ser Ala Asp Ser Gln Leu Pro
                565                      570                      575
Cys Ile Lys Asp Gly Ser Glu Gly Val Lys Asp Val Glu Leu Val Leu
                580                      585                      590
Pro Glu Asp Ser Met Phe Glu Asp Ala Ser Val Ser Glu Gly Arg Gly
                595                      600                      605
Thr Gln Ile Glu Glu Asn Pro Leu Glu Glu Asn Ile Leu Ala Gly Glu
        610                      615                      620
Ala Ala Ser Gln Ala Gly Asp Ser Gly Asn Glu Ala Ala Asn Arg Gly
625                      630                      635                      640
Asp Gly Ser Asp Val Ser Ser Gln Thr Pro Gln Thr Ser Ser Asp Trp
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<210> 5299
<211> 368
<212> DNA
<213> Homo sapiens

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180
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240
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4468

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368

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<211> 122
<212> PRT
<213> Homo sapiens

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            20                  25                  30
Gln Phe Ala Met Leu Leu Arg Glu Tyr Arg Leu Gly Leu Pro Ile Gln
        35                  40                  45
Asp Tyr Cys Thr Gly Leu Leu Lys Leu Tyr Gly Asp Arg Arg Lys Phe
    50                  55                  60
Leu Leu Leu Gly Met Arg Pro Phe Ile Pro Asp Gln Asp Ile Gly Tyr
65                  70                  75                  80
Phe Glu Gly Phe Leu Glu Gly Val Gly Ile Arg Glu Gly Gly Ile Leu
                85                  90                  95
Thr Asp Ser Phe Gly Arg Ile Lys Pro Asp Glu Leu His Val Gly Leu
            100                 105                 110
Arg Ser Ala Gln Leu Thr Met Ala Arg Arg
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<212> DNA
<213> Homo sapiens

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660
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2280
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<210> 5302
<211> 1339
<212> PRT
<213> Homo sapiens
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Cys Gly Ala Ala Leu Leu Leu Trp Ile Val Ser Ser Cys Leu Cys Arg
            20                  25                  30
Ala Trp Thr Ala Pro Ser Thr Ser Gln Lys Cys Asp Glu Pro Leu Val
        35                  40                  45
Ser Gly Leu Pro His Val Ala Phe Ser Ser Ser Ser Ser Ile Ser Gly
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      50                          55                          60
Ser Tyr Ser Pro Gly Tyr Ala Lys Ile Asn Lys Arg Gly Gly Ala Gly
65                          70                          75                          80
Gly Trp Ser Pro Ser Asp Ser Asp His Tyr Gln Trp Leu Gln Val Asp
                        85                          90                          95
Phe Gly Asn Arg Lys Gln Ile Ser Ala Ile Ala Thr Gln Gly Arg Tyr
                100                         105                         110
Ser Ser Ser Asp Trp Val Thr Gln Tyr Arg Met Leu Tyr Ser Asp Thr
                115                         120                         125
Gly Arg Asn Trp Lys Pro Tyr His Gln Asp Gly Asn Ile Trp Ala Phe
            130                         135                         140
Pro Gly Asn Ile Asn Ser Asp Gly Val Val Arg His Glu Leu Gln His
145                         150                         155                         160
Pro Ile Ile Ala Arg Tyr Val Arg Ile Val Pro Leu Asp Trp Asn Gly
                    165                         170                         175
Glu Gly Arg Ile Gly Leu Arg Ile Glu Val Tyr Gly Cys Ser Tyr Trp
                    180                         185                         190
Ala Asp Val Ile Asn Phe Asp Gly His Val Val Leu Pro Tyr Arg Phe
                    195                         200                         205
Arg Asn Lys Lys Met Lys Thr Leu Lys Asp Val Ile Ala Leu Asn Phe
            210                         215                         220
Lys Thr Ser Glu Ser Glu Gly Val Ile Leu His Gly Glu Gly Gln Gln
225                         230                         235                         240
Gly Asp Tyr Ile Thr Leu Glu Leu Lys Lys Ala Lys Leu Val Leu Ser
                    245                         250                         255
Leu Asn Leu Gly Ser Asn Gln Leu Gly Pro Ile Tyr Gly His Thr Ser
                260                         265                         270
Val Met Thr Gly Ser Leu Leu Asp Asp His His Trp His Ser Val Val
            275                         280                         285
Ile Glu Arg Gln Gly Arg Ser Ile Asn Leu Thr Leu Asp Arg Ser Met
            290                         295                         300
Gln His Phe Arg Thr Asn Gly Glu Phe Asp Tyr Leu Asp Leu Asp Tyr
305                         310                         315                         320
Glu Ile Thr Phe Gly Gly Ile Pro Phe Ser Gly Lys Pro Ser Ser Ser
                    325                         330                         335
Ser Arg Lys Asn Phe Lys Gly Cys Met Glu Ser Ile Asn Tyr Asn Gly
                340                         345                         350
Val Asn Ile Thr Asp Leu Ala Arg Arg Lys Lys Leu Glu Pro Ser Asn
            355                         360                         365
Val Gly Asn Leu Ser Phe Ser Cys Val Glu Pro Tyr Thr Val Pro Val
        370                         375                         380
Phe Phe Asn Ala Thr Ser Tyr Leu Glu Val Pro Gly Arg Leu Asn Gln
385                         390                         395                         400
Asp Leu Phe Ser Val Ser Phe Gln Phe Arg Thr Trp Asn Pro Asn Gly
                    405                         410                         415
Leu Leu Val Phe Ser His Phe Ala Asp Asn Leu Gly Asn Val Glu Ile
                420                         425                         430
Asp Leu Thr Glu Ser Lys Val Gly Val His Ile Asn Ile Thr Gln Thr
            435                         440                         445
Lys Met Ser Gln Ile Asp Ile Ser Ser Gly Ser Gly Leu Asn Asp Gly
    450                         455                         460
Gln Trp His Glu Val Arg Phe Leu Ala Lys Glu Asn Phe Ala Ile Leu
465                         470                         475                         480
Thr Ile Asp Gly Asp Glu Ala Ser Ala Val Arg Thr Asn Ser Pro Leu
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```
                        485                   490                   495
Gln Val Lys Thr Gly Glu Lys Tyr Phe Phe Gly Gly Phe Leu Asn Gln
                500                   505                   510
Met Asn Asn Ser Ser His Ser Val Leu Gln Pro Ser Phe Gln Gly Cys
            515                   520                   525
Met Gln Leu Ile Gln Val Asp Asp Gln Leu Val Asn Leu Tyr Glu Val
        530                   535                   540
Ala Gln Arg Lys Pro Gly Ser Phe Ala Asn Val Ser Ile Asp Met Cys
545                   550                   555                   560
Ala Ile Ile Asp Arg Cys Val Pro Asn His Cys Glu His Gly Gly Lys
                565                   570                   575
Cys Ser Gln Thr Trp Asp Ser Phe Lys Cys Thr Cys Asp Glu Thr Gly
            580                   585                   590
Tyr Ser Gly Ala Thr Cys His Asn Ser Ile Tyr Glu Pro Ser Cys Glu
            595                   600                   605
Ala Tyr Lys His Leu Gly Gln Thr Ser Asn Tyr Tyr Trp Ile Asp Pro
    610                   615                   620
Asp Gly Ser Gly Pro Leu Gly Pro Leu Lys Val Tyr Cys Asn Met Thr
625                   630                   635                   640
Glu Asp Lys Val Trp Thr Ile Val Ser His Asp Leu Gln Met Gln Thr
                645                   650                   655
Pro Val Val Gly Tyr Asn Pro Glu Lys Tyr Ser Val Thr Gln Leu Val
                660                   665                   670
Tyr Ser Ala Ser Met Asp Gln Ile Ser Ala Ile Thr Asp Ser Ala Glu
            675                   680                   685
Tyr Cys Glu Gln Tyr Val Ser Tyr Phe Cys Lys Met Ser Arg Leu Leu
    690                   695                   700
Asn Thr Pro Asp Gly Ser Pro Tyr Thr Trp Trp Val Gly Lys Ala Asn
705                   710                   715                   720
Glu Lys His Tyr Tyr Trp Gly Gly Ser Gly Pro Gly Ile Gln Lys Cys
                725                   730                   735
Ala Cys Gly Ile Glu Arg Asn Cys Thr Asp Pro Lys Tyr Tyr Cys Asn
            740                   745                   750
Cys Asp Ala Asp Tyr Lys Gln Trp Arg Lys Asp Ala Gly Phe Leu Ser
            755                   760                   765
Tyr Lys Asp His Leu Pro Val Ser Gln Val Val Val Gly Asp Thr Asp
        770                   775                   780
Arg Gln Gly Ser Glu Ala Lys Leu Ser Val Gly Pro Leu Arg Cys Gln
785                   790                   795                   800
Gly Asp Arg Asn Tyr Trp Asn Ala Ala Ser Phe Pro Asn Pro Ser Ser
                805                   810                   815
Tyr Leu His Phe Ser Thr Phe Gln Gly Glu Thr Ser Ala Asp Ile Ser
            820                   825                   830
Phe Tyr Phe Lys Thr Leu Thr Pro Trp Gly Val Phe Leu Glu Asn Met
        835                   840                   845
Gly Lys Glu Asp Phe Ile Lys Leu Glu Leu Lys Ser Ala Thr Glu Val
    850                   855                   860
Ser Phe Ser Phe Asp Val Gly Asn Gly Pro Val Glu Ile Val Val Arg
865                   870                   875                   880
Ser Pro Thr Pro Leu Asn Asp Asp Gln Trp His Arg Val Thr Ala Glu
                885                   890                   895
Arg Asn Val Lys Gln Ala Ser Leu Gln Val Asp Arg Leu Pro Gln Gln
            900                   905                   910
Ile Arg Lys Ala Pro Thr Glu Gly His Thr Arg Leu Glu Leu Tyr Ser
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                915                    920                    925
Gln Leu Phe Val Gly Gly Ala Gly Gly Gln Gln Gly Phe Leu Gly Cys
        930                    935                    940
Ile Arg Ser Leu Arg Met Asn Gly Val Thr Leu Asp Leu Glu Glu Arg
945                    950                    955                    960
Ala Lys Val Thr Ser Gly Phe Ile Ser Gly Cys Ser Gly His Cys Thr
                965                    970                    975
Ser Tyr Gly Thr Asn Cys Glu Asn Gly Gly Lys Cys Leu Glu Arg Tyr
            980                    985                    990
His Gly Tyr Ser Cys Asp Cys Ser Asn Thr Ala Tyr Asp Gly Thr Phe
        995                    1000                   1005
Cys Asn Lys Asp Val Gly Ala Phe Phe Glu Glu Gly Met Trp Leu Arg
        1010                   1015                   1020
Tyr Asn Phe Gln Ala Pro Ala Thr Asn Ala Arg Asp Ser Ser Ser Arg
1025                   1030                   1035                   1040
Val Asp Asn Ala Pro Asp Gln Gln Asn Ser His Pro Asp Leu Ala Gln
                1045                   1050                   1055
Glu Glu Ile Arg Phe Ser Phe Ser Thr Thr Lys Ala Pro Cys Ile Leu
            1060                   1065                   1070
Leu Tyr Ile Ser Ser Phe Thr Thr Asp Phe Leu Ala Val Leu Val Lys
            1075                   1080                   1085
Pro Thr Gly Ser Leu Gln Ile Arg Tyr Asn Leu Gly Gly Thr Arg Glu
        1090                   1095                   1100
Pro Tyr Asn Ile Asp Val Asp His Arg Asn Met Ala Asn Gly Gln Pro
1105                   1110                   1115                   1120
His Ser Val Asn Ile Thr Arg His Glu Lys Thr Ile Phe Leu Lys Leu
            1125                   1130                   1135
Asp His Tyr Pro Ser Val Ser Tyr His Leu Pro Ser Ser Ser Asp Thr
            1140                   1145                   1150
Leu Phe Asn Ser Pro Lys Ser Leu Phe Leu Gly Lys Val Ile Glu Thr
            1155                   1160                   1165
Gly Lys Ile Asp Gln Glu Ile His Lys Tyr Asn Thr Pro Gly Phe Thr
        1170                   1175                   1180
Gly Cys Leu Ser Arg Val Gln Phe Asn Gln Ile Ala Pro Leu Lys Ala
1185                   1190                   1195                   1200
Ala Leu Arg Gln Thr Asn Ala Ser Ala His Val His Ile Gln Gly Glu
                1205                   1210                   1215
Leu Val Glu Ser Asn Cys Gly Ala Ser Pro Leu Thr Leu Ser Pro Met
            1220                   1225                   1230
Ser Ser Ala Thr Asp Pro Trp His Leu Asp His Leu Asp Ser Ala Ser
            1235                   1240                   1245
Ala Asp Phe Pro Tyr Asn Pro Gly Gln Gly Gln Ala Ile Arg Asn Gly
        1250                   1255                   1260
Val Asn Arg Asn Ser Ala Ile Ile Gly Gly Val Ile Ala Val Val Ile
1265                   1270                   1275                   1280
Phe Thr Ile Leu Cys Thr Leu Val Phe Leu Ile Arg Tyr Met Phe Arg
                1285                   1290                   1295
His Lys Gly Thr Tyr His Thr Asn Glu Ala Lys Gly Ala Glu Ser Ala
            1300                   1305                   1310
Glu Ser Ala Asp Ala Ala Ile Met Asn Asn Asp Pro Asn Phe Thr Glu
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Thr Ile Asp Glu Ser Lys Lys Glu Trp Leu Ile
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4476

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<210> 5303
<211> 334
<212> DNA
<213> Homo sapiens


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120
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180
ccaaagagat ggaaggcctg gcagacagtg ggcctggcgg ggcgggccgg cccgcggccg
240
tggcagcccg tgagggcagc acggagtttg actggggtga tgagacgtcg agggacagtg
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334


<210> 5304
<211> 95
<212> PRT
<213> Homo sapiens


<400> 5304
Met Trp Ser Ala His Pro Ala Glu Tyr Glu Arg Ser Ser Thr Ala Ser
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Arg Gly Ala Arg Leu Gly Ser Arg Asp Gly Cys Met Lys Glu Ser Gln
            20                  25                  30
Arg Arg Gly Tyr Cys Ser Arg His Leu Ser Met Arg Thr Lys Glu Met
        35                  40                  45
Glu Gly Leu Ala Asp Ser Gly Pro Gly Gly Ala Gly Arg Pro Ala Ala
    50                  55                  60
Val Ala Ala Arg Glu Gly Ser Thr Glu Phe Asp Trp Gly Asp Glu Thr
65                  70                  75                  80
Ser Arg Asp Ser Gly Gly Gln Gln Cys Gly Asp Ser Trp Arg Leu
                85                  90                  95


<210> 5305
<211> 582
<212> DNA
<213> Homo sapiens


<400> 5305
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120
ctgttgtagg cactggctag ggaggggcag gcctccttcc tgcccctcga gacactcttg
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300
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360
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420
caggggtgtc tgaagccgcc ctgtcagctg gccggtccaa gcctgtggct ggagctggtg
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540
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582

<210> 5306
<211> 62
<212> PRT
<213> Homo sapiens

<400> 5306
Met Ala Arg Gly His Gly Thr Arg Gln Gly Cys Leu Lys Pro Pro Cys
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Gln Leu Ala Gly Pro Ser Leu Trp Leu Glu Leu Val Cys Val Tyr Leu
            20   25   30
Ile Lys Ser His Arg Cys Leu Lys Lys Lys Lys Lys Lys Lys Lys Lys
        35   40   45
Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
    50   55   60

<210> 5307
<211> 1551
<212> DNA
<213> Homo sapiens

<400> 5307
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120
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acatggcctg gagagagtct ctctctcctt gtctctgtct cttaataata gttttttaacg
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300
ttaaagcaga ctaaaagcat gaaattgctt tcagaagaat gtatatcatc gggaaaagtt
360
cggggggcaga gtgggggaat caggctttat tcaaaagaaa cagttgaaaa catgggactt
420
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480
tggaatttttt tttttaagaa actttttttgt gttttttttta attttaggtc acttattagt
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600
tgtgggggaat ccacgtggtt gacgttagaa cctcccttct gcagactgtt gcctgtcatc
660

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960
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<210> 5308
<211> 112
<212> PRT
<213> Homo sapiens

<400> 5308
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Leu Leu Ile Asp Leu Thr Trp Thr His Arg Gly Gly Lys Thr Cys Gly
            20                  25                  30
Asp His His Arg Gly His Gly Pro Thr Ser Val Ile Trp Glu Thr Gly
            35                  40                  45
Leu Gly Arg Gly Gly Asp Phe Pro Lys Ser Pro Ser Ile His Asp Arg
    50                  55                  60
Gly Arg Ala Trp Glu Leu Gly Thr Gln Gly Ser Ser Lys Arg Ser Arg
65                  70                  75                  80
Ser Leu Cys Tyr Pro Gln Ile His Lys Leu Arg Ile Thr Cys Ile His
                85                  90                  95
Phe Pro Pro Pro Trp Thr Leu Cys Phe Glu Leu Phe Cys Leu Pro Asp
            100                 105                 110
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<210> 5309
<211> 2078
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<212> DNA
<213> Homo sapiens

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120
tccacccgca acgtactccg ggtcggcctt gcgctcgggg cctgagaggg gcggcggcgg
180
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300
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360
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cttaggctag actgtgatgc taataccgta aacctagcaa gagagagctc tgctgacgga
900
gcggacagtg tatcagcaca gagtggagct tctgttcagc ccctagtgtc ttctgtaagg
960
cccctaacat cagtagatgg tcagttaaca agccctgcaa caccatcccc tgatgcaagc
1020
acttctctgg aagactcttt tgctcattta caactcagtg agacaacac agctgaaagg
1080
agtcataggg gagaaggaga agaagatcat gaatcaccat cttcaggcag ggtaccagca
1140
ccagacacct ccattgaaga aactgaatca gatgccagta gtgatagtga ggatgtatct
1200
gcagttgttg cacagcactc cttgacccaa cagagacttt tggtttctaa tgcaaaccag
1260
acagtacccg atcgatcaga tcgatcggga actgatcgat cagtagcagg gggtggaaca
1320
gtgagtgtca gtgtcagatc tagaaggcct gatggacagt gcacagtaac tgaagtttaa
1380
ataaaaatgt cttcagctcc atgctcaagg ttgaaagggt tacctgtaaa tttctgccca
1440
cataacatta tactcatccc tagtagtgca ttttgggagt tggggtggga aggggtatgg
1500
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gaaggataga ctcataatta aaatgtctaa catgtctctg ttgagaaatt tatttaatgt
1560
aaggaacttg ggtgttaata gttgagagct gtttagtaat aacccagttt tcttgaggtc
1620
tgtttacttt atactttta aaaacttctg tagttctttt ggccagtgtg tttgtattat
1680
ctgtgcatta atggtcctca tctgactcct gcattgtgtc ttatttttct gcatggattg
1740
gcataagacc attactaaaa tttggcacct gtgagatgtt tgatattatg aacaggaaac
1800
ataatttaat gtatgaatag atgtgaattt gggatttcaa aatagatgaa taacaactat
1860
tttatagtaa agttattgaa atggaaatga aaacagccag taacttatgt ttcagaatgt
1920
ttgtaacaca cttcatggtg ttcccatagg ctttgctgtc tagtcttata gtttgaggtt
1980
tttttggtct gcatttttct ttttgattac aaaatttata atttaataaa tactagagtt
2040
tatcaaaaaa aaaaaaaaaa aaaaaaaaa aaaaaaaa
2078

<210> 5310
<211> 359
<212> PRT
<213> Homo sapiens

<400> 5310
Met Met Ala Gly Cys Gly Glu Ile Asp His Ser Ile Asn Met Leu Pro
 1   5   10   15
Thr Asn Arg Lys Ala Asn Glu Ser Cys Ser Asn Thr Ala Pro Ser Leu
            20   25   30
Thr Val Pro Glu Cys Ala Ile Cys Leu Gln Thr Cys Val His Pro Val
        35   40   45
Ser Leu Pro Cys Lys His Val Phe Cys Tyr Leu Cys Val Lys Gly Ala
    50   55   60
Ser Trp Leu Gly Lys Arg Cys Ala Leu Cys Arg Gln Glu Ile Pro Glu
65   70   75   80
Asp Phe Leu Asp Lys Pro Thr Leu Leu Ser Pro Glu Glu Leu Lys Ala
                85   90   95
Ala Ser Arg Gly Asn Gly Glu Tyr Ala Trp Tyr Tyr Glu Gly Arg Asn
            100   105   110
Gly Trp Trp Gln Tyr Asp Glu Arg Thr Ser Arg Glu Leu Glu Asp Ala
            115   120   125
Phe Ser Lys Gly Lys Lys Asn Thr Glu Met Leu Ile Ala Gly Phe Leu
    130   135   140
Tyr Val Ala Asp Leu Glu Asn Met Val Gln Tyr Arg Arg Asn Glu His
145   150   155   160
Gly Arg Arg Arg Lys Ile Lys Arg Asp Ile Ile Asp Ile Pro Lys Lys
                165   170   175
Gly Val Ala Gly Leu Arg Leu Asp Cys Asp Ala Asn Thr Val Asn Leu
            180   185   190
Ala Arg Glu Ser Ser Ala Asp Gly Ala Asp Ser Val Ser Ala Gln Ser
        195   200   205
Gly Ala Ser Val Gln Pro Leu Val Ser Ser Val Arg Pro Leu Thr Ser

```
        210                      215                      220
Val Asp Gly Gln Leu Thr Ser Pro Ala Thr Pro Ser Pro Asp Ala Ser
225                      230                      235                      240
Thr Ser Leu Glu Asp Ser Phe Ala His Leu Gln Leu Ser Gly Asp Asn
                    245                      250                      255
Thr Ala Glu Arg Ser His Arg Gly Glu Gly Glu Glu Asp His Glu Ser
                    260                      265                      270
Pro Ser Ser Gly Arg Val Pro Ala Pro Asp Thr Ser Ile Glu Glu Thr
                    275                      280                      285
Glu Ser Asp Ala Ser Ser Asp Ser Glu Asp Val Ser Ala Val Val Ala
        290                      295                      300
Gln His Ser Leu Thr Gln Gln Arg Leu Leu Val Ser Asn Ala Asn Gln
305                      310                      315                      320
Thr Val Pro Asp Arg Ser Asp Arg Ser Gly Thr Asp Arg Ser Val Ala
                    325                      330                      335
Gly Gly Gly Thr Val Ser Val Ser Val Arg Ser Arg Arg Pro Asp Gly
                    340                      345                      350
Gln Cys Thr Val Thr Glu Val
                    355
```

```
<210> 5311
<211> 572
<212> DNA
<213> Homo sapiens
```

```
<400> 5311
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60
ctccacttcg tgcaccaggc ctacctgcag cagtggatca agagctccga cacgcgctgc
120
tgcgagctct gcaagtatga gttcatcatg gagaccaagc tgaagccact gagaaaatgg
180
gagaagttgc agatgacgtc cagcgagcgc aggaagatca tgtgctcagt gacattccac
240
gtcattgcca tcacatgtgt ggtctggtcc ttgtatgtgc tcattgaccg tcctgctgag
300
gagatcaagc aggggcaggc aacaggaatc ctagaatggc ccttttggac taaattggtg
360
gttgtggcca tcggcttcac cagaggactt ctttttatgt atgttcagtg taaagtgtat
420
gtgcaattgt ggaagagact caaggcctat aatagagtga tctatgttca aaactgtcca
480
gaaacaagca aaaagaatat ttttgaaaaa tctccactaa cagagcccaa ctttgaaaat
540
aaacatggat atggaatctg tcattccgac ac
572
```

```
<210> 5312
<211> 190
<212> PRT
<213> Homo sapiens
```

```
<400> 5312
Cys His Cys Glu Gly Asp Asp Glu Ser Pro Leu Ile Thr Pro Cys His
```

```
 1                    5                      10                     15
Cys Thr Gly Ser Leu His Phe Val His Gln Ala Tyr Leu Gln Gln Trp
                20                      25                     30
Ile Lys Ser Ser Asp Thr Arg Cys Cys Glu Leu Cys Lys Tyr Glu Phe
                35                      40                     45
Ile Met Glu Thr Lys Leu Lys Pro Leu Arg Lys Trp Glu Lys Leu Gln
        50                      55                     60
Met Thr Ser Ser Glu Arg Arg Lys Ile Met Cys Ser Val Thr Phe His
65                      70                      75                     80
Val Ile Ala Ile Thr Cys Val Val Trp Ser Leu Tyr Val Leu Ile Asp
                85                      90                     95
Arg Pro Ala Glu Glu Ile Lys Gln Gly Gln Ala Thr Gly Ile Leu Glu
            100                     105                    110
Trp Pro Phe Trp Thr Lys Leu Val Val Val Ala Ile Gly Phe Thr Arg
        115                     120                    125
Gly Leu Leu Phe Met Tyr Val Gln Cys Lys Val Tyr Val Gln Leu Trp
        130                     135                    140
Lys Arg Leu Lys Ala Tyr Asn Arg Val Ile Tyr Val Gln Asn Cys Pro
145                     150                     155                    160
Glu Thr Ser Lys Lys Asn Ile Phe Glu Lys Ser Pro Leu Thr Glu Pro
                165                     170                    175
Asn Phe Glu Asn Lys His Gly Tyr Gly Ile Cys His Ser Asp
            180                     185                    190
```

```
<210> 5313
<211> 322
<212> DNA
<213> Homo sapiens

<400> 5313
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60
aaaggcgtca tgcgagtagg catcctggcg aaaggcctcc tcctgcgtgg ggacaggaac
120
gtgcgcctcg ctctgctctg ctccgagaag cccacgcaca gcctgctgcg gaggatcgcc
180
cagcagctgc cccggcaaca caggcaattc cacgttgtgt gcgactggcc tgtgcatatg
240
gaggtgttca gtgacctggc cctggacact cctgctaaca ggacacacac atactctctt
300
acacacatac atgtccacac ac
322
```

```
<210> 5314
<211> 107
<212> PRT
<213> Homo sapiens

<400> 5314
Arg Gly Arg Arg Glu Glu Glu Gly Asp Lys Arg Ser Val Ala Pro Gln
 1                    5                      10                     15
Thr Arg Val Leu Lys Gly Val Met Arg Val Gly Ile Leu Ala Lys Gly
                20                      25                     30
Leu Leu Leu Arg Gly Asp Arg Asn Val Arg Leu Ala Leu Leu Cys Ser
```

```
              35                    40                    45
Glu Lys Pro Thr His Ser Leu Leu Arg Arg Ile Ala Gln Gln Leu Pro
      50                    55                    60
Arg Gln His Arg Gln Phe His Val Val Cys Asp Trp Pro Val His Met
65                    70                    75                    80
Glu Val Phe Ser Asp Leu Ala Leu Asp Thr Pro Ala Asn Arg Thr His
                  85                    90                    95
Thr Tyr Ser Leu Thr His Ile His Val His Thr
              100                   105


<210> 5315
<211> 2298
<212> DNA
<213> Homo sapiens


<400> 5315
ngctcccggc ggcgacgact acgaccacta ggagagcgga cggaggcggc gcctgaagcg
60
gcggcggacg catgccccgg acggcgggc ggacccggag agacaaattc ggggcccggg
120
gcatgtcccc gggcctccgt gaagggggcg gcggcggcta tggagatcgc gccgcaggag
180
gcgccgcccg tgccgggcgc ggacggcgac attgaagagg ccccagctga ggccgggtct
240
cccagccccg cgtcgccccc cgccgatggg cgcctcaagg ctgcagccaa gcgcgtcaca
300
ttcccgtccg acgaggatat cgtgtctgga gcagtggagc ccaaagaccc ctggagacat
360
gcccagaatg tgaccgtgga cgaggtcatc ggcgcctaca agcaggcctg ccagaagctg
420
aactgcaggc agatccccaa gctcctcagg cagctgcagg aattcacaga cctcgggcac
480
cgcctcgact gtctggacct gaaaggtgag aagcttgact acaagacctg tgaggccctg
540
gaagaggtct tcaagaggct gcagttcaag gtcgtggacc tggagcagac aaacctggat
600
gaagatggtg cctcggccct cttcgacatg atcgagtact acgagtcggc cacccacctc
660
aacatctcct tcaacaagca catcggcacc cggggctggc aggcggccgc ccacatgatg
720
cgcaagacga gctgcctgca gtatctggac gcccgcaaca cgcccctgct ggaccactcg
780
gcgcccttcg tggcccgtgc cctgcgcatc cgcagcagcc tggcagtgct gcacttggag
840
aacgccagcc tgtcggggcg gcccctcatg ctgctcgcca cggccctgaa gatgaacatg
900
aacctgcggg agctgtacct ggcggacaac aagctcaacg gcctgcagga ctcggcccag
960
ctgggtaacc tgctcaagtt caactgctcc ctgcagatcc tggacctccg gaacaaccac
1020
gtgctagact cgggtctggc ctacatctgc gagggcctca ggagcagag gaaggggctg
1080
gtgaccctgg tgctgtggaa caaccagctc acgcacacag gcatggcctt cctgggcatg
1140
```

```
acactgtcgc acactcagag cctggagacg ctgaacctgg gccacaaccc catcgggaac
1200
gagggtgtgc ggcacctcaa gaacgggctc atcagcaacc gcagcgtgct gcgcctcggg
1260
ctggcctcca ccaagctcac gtgcgagggc gcggtggcgg tggcggagtt catcgctgag
1320
agcccccgcc tcctgagact ggaccttcgg gagaacgaga tcaagacagg cgggctcatg
1380
gcactgtcgt tggccctcaa ggtgaaccac tcactgctgc gcctggacct cgaccgtgaa
1440
cccaagaaag aggcggtgaa gagcttcatc gagacgcaga aggcgctgct ggccgagatc
1500
cagaacggct gcaagcgcaa cttggtgctg gcgcgggaga gggaggagaa ggagcagccg
1560
ccacagctgt cggcctccat gcctgagacc accgccaccg agccccagcc cgacgacgag
1620
cccgccgctg gggtgcagaa cggggccccc agccccgcac ccagcccgga ctcagactca
1680
gactcggact cggatgggga ggaagaggag gaagaggaag gggagaggga cgagaccccc
1740
tccggggcca ttgacacccg ggacacaggg tcctctgagc ctcagccacc accggagccg
1800
cctcggtcag ggccaccact gcccaacggc ctgaagcccg agttcgccct ggcactgccc
1860
cctgagccgc ccccgggggcc tgaggtcaag gggggcagct gcggcctgga gcacgaactg
1920
agctgctcca agaacgagaa ggagctcgag gagctgcttc tggaagccag tcaggaatcc
1980
gggcaggaga cactgtgaca ctttaggtga ggccaggccc ggggcccaca gcactcggga
2040
ggagctgaga gagcctctgg ctctgacagt ctctccccca atctctcctc cccaagttcc
2100
ctttttccgg tcggtctgcg atgagctgag gccagagcca tgagaatctg ctcaccttcc
2160
ccccagcctt cctgaggccc aggatgccag gggtgggggc cattctgggg ccccccctccc
2220
cccacagcaa cactacaagg ggtgcaggag ctacagggag tggccctccg cgcgtgactc
2280
aagcacttct atttatga
2298


<210> 5316
<211> 544
<212> PRT
<213> Homo sapiens

<400> 5316
Gln Asn Val Thr Val Asp Glu Val Ile Gly Ala Tyr Lys Gln Ala Cys
 1               5                  10                  15
Gln Lys Leu Asn Cys Arg Gln Ile Pro Lys Leu Leu Arg Gln Leu Gln
            20                  25                  30
Glu Phe Thr Asp Leu Gly His Arg Leu Asp Cys Leu Asp Leu Lys Gly
        35                  40                  45
Glu Lys Leu Asp Tyr Lys Thr Cys Glu Ala Leu Glu Glu Val Phe Lys
```

```
            50                      55                      60
Arg Leu Gln Phe Lys Val Val Asp Leu Glu Gln Thr Asn Leu Asp Glu
65                      70                      75                      80
Asp Gly Ala Ser Ala Leu Phe Asp Met Ile Glu Tyr Tyr Glu Ser Ala
                    85                      90                      95
Thr His Leu Asn Ile Ser Phe Asn Lys His Ile Gly Thr Arg Gly Trp
                100                     105                     110
Gln Ala Ala Ala His Met Met Arg Lys Thr Ser Cys Leu Gln Tyr Leu
            115                     120                     125
Asp Ala Arg Asn Thr Pro Leu Leu Asp His Ser Ala Pro Phe Val Ala
        130                     135                     140
Arg Ala Leu Arg Ile Arg Ser Ser Leu Ala Val Leu His Leu Glu Asn
145                     150                     155                     160
Ala Ser Leu Ser Gly Arg Pro Leu Met Leu Leu Ala Thr Ala Leu Lys
                165                     170                     175
Met Asn Met Asn Leu Arg Glu Leu Tyr Leu Ala Asp Asn Lys Leu Asn
                180                     185                     190
Gly Leu Gln Asp Ser Ala Gln Leu Gly Asn Leu Leu Lys Phe Asn Cys
            195                     200                     205
Ser Leu Gln Ile Leu Asp Leu Arg Asn Asn His Val Leu Asp Ser Gly
        210                     215                     220
Leu Ala Tyr Ile Cys Glu Gly Leu Lys Glu Gln Arg Lys Gly Leu Val
225                     230                     235                     240
Thr Leu Val Leu Trp Asn Asn Gln Leu Thr His Thr Gly Met Ala Phe
                245                     250                     255
Leu Gly Met Thr Leu Ser His Thr Gln Ser Leu Glu Thr Leu Asn Leu
                260                     265                     270
Gly His Asn Pro Ile Gly Asn Glu Gly Val Arg His Leu Lys Asn Gly
            275                     280                     285
Leu Ile Ser Asn Arg Ser Val Leu Arg Leu Gly Leu Ala Ser Thr Lys
        290                     295                     300
Leu Thr Cys Glu Gly Ala Val Ala Val Ala Glu Phe Ile Ala Glu Ser
305                     310                     315                     320
Pro Arg Leu Leu Arg Leu Asp Leu Arg Glu Asn Glu Ile Lys Thr Gly
                325                     330                     335
Gly Leu Met Ala Leu Ser Leu Ala Leu Lys Val Asn His Ser Leu Leu
                340                     345                     350
Arg Leu Asp Leu Asp Arg Glu Pro Lys Lys Glu Ala Val Lys Ser Phe
            355                     360                     365
Ile Glu Thr Gln Lys Ala Leu Leu Ala Glu Ile Gln Asn Gly Cys Lys
        370                     375                     380
Arg Asn Leu Val Leu Ala Arg Glu Arg Glu Glu Lys Glu Gln Pro Pro
385                     390                     395                     400
Gln Leu Ser Ala Ser Met Pro Glu Thr Thr Ala Thr Glu Pro Gln Pro
                405                     410                     415
Asp Asp Glu Pro Ala Ala Gly Val Gln Asn Gly Ala Pro Ser Pro Ala
            420                     425                     430
Pro Ser Pro Asp Ser Asp Ser Asp Ser Asp Ser Asp Gly Glu Glu Glu
            435                     440                     445
Glu Glu Glu Glu Gly Glu Arg Asp Glu Thr Pro Ser Gly Ala Ile Asp
            450                     455                     460
Thr Arg Asp Thr Gly Ser Ser Glu Pro Gln Pro Pro Pro Glu Pro Pro
465                     470                     475                     480
Arg Ser Gly Pro Pro Leu Pro Asn Gly Leu Lys Pro Glu Phe Ala Leu
```

```
                      485                   490                   495
Ala Leu Pro Pro Glu Pro Pro Pro Gly Pro Glu Val Lys Gly Gly Ser
                500                   505                   510
Cys Gly Leu Glu His Glu Leu Ser Cys Ser Lys Asn Glu Lys Glu Leu
            515                   520                   525
Glu Glu Leu Leu Leu Glu Ala Ser Gln Glu Ser Gly Gln Glu Thr Leu
        530                   535                   540
```

<210> 5317
<211> 889
<212> DNA
<213> Homo sapiens

<400> 5317
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ccaaggctca ggccggggcc aagagccgac ccaagaagag agagggcgtc cacctcccca
60
ccaccaagga gctggccaag cggcagcgcc tgccctccgt ggaaaaccgg ccaaagatct
120
cagccttcct gcccgcccgg cagctctgga agtggtcggg gaatcccaca cagcggcgtg
180
gcatgaaggg gaaggcccgg aagctgttct acaaggccat cgtgcggggc gaggagaccc
240
tgcgtgtcgg ggactgtgcc gtcttcctgt cagctgggcg gcccaacctc ccctacatcg
300
gccgcatcga gagcatgtgg gagtcgtggg gcagcaacat ggtggtcaag gtcaagtggt
360
tctaccaccc tgaggagacc aagctgggca agcagttcca ccagggccag cactgggacc
420
agaagtccag ccgcagcctc ccggcggccc tgcgggtctc cagccagagg aaggacttca
480
tggagcgcgc gctataccag tcctcgcatg tggacgaaaa tgacgtgcag acggtgtcgc
540
acaagtgcct ggtggtgggc ctggagcagt atgagcagat gctgaagacc aagaagtacc
600
aggacagcga gggcctgtac tacctcgcgg gcacctacga gcccaccacg ggcatgatct
660
tctccacgga cggcgtgccc gtgctctgct gagcccgccg ggccctgcgg gcccacctgt
720
gccccgaggg cggcccaggg acccatctcc atcactgcca tggcgcggag accacgtgcg
780
ttgtgtgcat gcgagcgctc ctgcaggcgt gtgcatgggg ccaggtggac gccccaggca
840
agtgtgagtg tgtacatgtg tgtgcccgta tgcatgcacg tgtgtgcac
889
```

<210> 5318
<211> 132
<212> PRT
<213> Homo sapiens

<400> 5318
```
Arg Gly Arg Pro Gly Ser Cys Ser Thr Arg Pro Ser Cys Gly Ala Arg
 1               5                  10                  15
Arg Pro Cys Val Ser Gly Thr Val Pro Ser Ser Cys Gln Leu Gly Gly
```

```
                20                    25                    30
Pro Thr Ser Pro Thr Ser Ala Ala Ser Arg Ala Cys Gly Ser Arg Gly
        35                    40                    45
Ala Ala Thr Trp Trp Ser Arg Ser Ser Gly Ser Thr Thr Leu Arg Arg
    50                    55                    60
Pro Ser Trp Ala Ser Ser Ser Thr Arg Ala Ser Thr Gly Thr Arg Ser
65                    70                    75                    80
Pro Ala Ala Ala Ser Arg Arg Pro Cys Gly Ser Pro Ala Arg Gly Arg
                85                    90                    95
Thr Ser Trp Ser Ala Arg Tyr Thr Ser Pro Arg Met Trp Thr Lys Met
            100                   105                   110
Thr Cys Arg Arg Cys Arg Thr Ser Ala Trp Trp Trp Ala Trp Ser Ser
        115                   120                   125
Met Ser Arg Cys
    130
```

<210> 5319
<211> 4231
<212> DNA
<213> Homo sapiens

<400> 5319

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nncggccgcg cggcaggaac tggcgctgaa gaccctgggg acagatggcc tttttctctt
60
ttcctccttg gacactgacg gggatatgta catcagccct gaggagttca aacccattgc
120
tgagaagcta acagggtcaa ctcccgcggc cagctacgag gaggaggagt tgccccctga
180
ccctagcgag gagacgctca ccatagaagc ccgattccag cctctgctcc cggagaccat
240
gaccaagagc aaagatggct tcctaggggt ctcccgcctc gccctgtccg gcctccgaaa
300
ctggacagcc gccgcctcac caagtgcagt gtttgccacc cgccacttcc agcccttcct
360
tcccccgcca ggccaggagc tgggtgagcc ctggtggatc atccccagtg agctgagcat
420
gttcactggc tacctgtcca caaccgcttc tatccaccg ccgcccaagg gcaaggaggt
480
catcatccac cggctcctga gcatgttcca ccctcggccc tttgtgaaga cccgctttgc
540
ccctcaggga gctgtggcct gcctgactgc catcagcgac ttctactaca ctgtgatgtt
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720
gctcttcgtg cccaaccaca ggtctctgaa tgtggacatg gagtggcttt acggggccag
780
tgaaagcagc aacatggagg tggacatcgg ctacataccc cagatggagc tggaggccac
840
gggcccctct gtgccctccg tgatcctgga tgaggatggc agcatgatcg acagccacct
900
gccctcaggg gagcccctgc agtttgtgtt tgaggagatc aagtggcagc aggagctgag
960
```

```
ctgggaggag gctgcccggc gcctggaggt ggccatgtac cccttcaaga aggtctccta
1020
cttgccgttc actgaggcct tcgaccgagc caaggctgag aacaagctgg tgcactcaat
1080
cctgctgtgg ggggccctgg atgaccagtc ctgctgaggt tcagggcgga ctctccggga
1140
gactgtcctg gaaagttcgc ccatcctcac cctgctcaac gagagcttca tcagcacctg
1200
gtccctggtg aaggagctgg aggaactgca gaacaaacag gagaactcgt cccaccagaa
1260
gctggctggc ctgcacctgg agaagtacag cttccccgtg gagatgatga tctgcctgcc
1320
caatggcacc gtggtccatc acatcaatgc caactacttc ttggacatca cctccgtgaa
1380
gccccgaggaa atcgagagca atctcttcag cttctcatcc acctttgaag acccgtccac
1440
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1560
tcagcccatt tcagactgca gatgccgccc actcccaccc cactcctagg ctgccttgga
1620
gggtacaaga tccactgagg gtggccacca cagccttggc tccatggtgg cgggtagaca
1680
agggatgcct gggctgactg ggcagaggaa cctctagctc tgactgtcac tcggctctcc
1740
ctacccattt ggctctggaa gctgcttggc ccccccagat cagggcctgg gtgaactccc
1800
tggacctttc ctagccagcc gcacagtcta ggcccttgtg gggtgaagaa tggagggagg
1860
agcaggctag gaagacgggg ccaccaccct ctccttgctt tcagcccttc ccacaggaaa
1920
catcaagaag ccccagccag gaggggccag gctgccaagg cggctcccct gtttatctag
1980
agccttcgtt cctggccata ccccggactg ccctcctgtg cctgatgtcc ccagctgggg
2040
tcagtctcaa caggagccag tcttctggag cctctgggca gaaccctcca tcagagtgga
2100
aatcagacgg gacccctgc agcttccctg accacgccac tgaccagcta tctggggaag
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2220
cagggccaag gcactcccac cgcctacctt agcacagggt ctctgcagga ctgcgggagc
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2340
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2460
cgtcctgagc cactgaccac ggccagtctc tcttttata tgtgcagaaa agtgtttta
2520
cacaaacttt ctcatggttt gtaggtattt ttttataacc ccagtgctga ggagaaagga
2580
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ggggcagtgg cttccccggc agcagcccca tgatggctga atccgaaatc ctcgatgggt
2640
ccagcttgat gtctttgcag ctgcacctat gggaagaagt agtcctctct tccttctcct
2700
cttcagcttt ttaaaaacag tcctcagagg atccatgatc cccagcactg tcccatcctc
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2820
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4200
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.

```
agaatctggt gctctctgtt gagagagatc t
4231
```

```
<210> 5320
<211> 96
<212> PRT
<213> Homo sapiens
```

```
<400> 5320
Met Cys Arg Val Thr Pro Leu Ala Leu Gly Val Ser Thr Glu Pro Ser
1               5                   10                  15
Pro Ala Ser Leu Val Leu Asn Phe Val Leu Phe Cys Phe Val Leu Arg
            20                  25                  30
Arg Ser Leu Ala Leu Xaa Thr Gln Ala Gly Val Leu Trp Leu Asp Leu
            35                  40                  45
Gly Ser Leu Gln Pro Pro Pro Arg Phe Lys Gln Phe Ser Cys Pro
        50                  55                  60
Ser Leu Pro Ser Ser Trp Asp Tyr Arg Cys Met Pro Pro Trp Leu Ala
65                  70                  75                  80
Asn Phe Cys Ile Phe Ser Arg Asp Gly Val Ser Pro Tyr Trp Ser Gly
                85                  90                  95
```

```
<210> 5321
<211> 6324
<212> DNA
<213> Homo sapiens
```

```
<400> 5321
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120
cttccttcac tgggcaggct ttgaggtgct tgtcggtctg gactgatgaa aatccatatg
180
acctgaaaga tgtctgaaaa ttccagtgac agtgattcat cttgtggttg gactgtcatc
240
agtcatgagg ggtcagatat agaaatgttg aattctgtga cccccactga cagctgtgag
300
cccgccccag aatgttcacc tttagagcaa gaggagcttc aagcattgca gatagagcga
360
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420
gaaaccagct caacaattga ggcagaggaa caaaagatac ccgaagacag tatctatatt
480
ggaactgcca gtgatgattc tgatattgtt acccttgagc cacctaagtt agaagaaatt
540
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660
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720
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780
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1680
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1980
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2220
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2280
gactttgtta atgatgttaa agattatctt agaaacatga aggaatatga agtagataat
2340
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2400
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2580
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2700
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2760
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3900
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4493

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4260
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5640
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4494

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5820
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5880
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5940
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6000
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6060
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6120
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6180
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6240
gcttgctgac ttgtttct gtgaaatttt ttgcacatct gaatatcgtg gaagaaacaa
6300
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6324
```

```
<210> 5322
<211> 209
<212> PRT
<213> Homo sapiens
```

```
<400> 5322
Met Leu Lys Arg Glu Leu Glu Arg Glu Arg Leu Val Thr Thr Ala Leu
1               5                   10                  15
Arg Gly Glu Leu Gln Gln Leu Ser Gly Ser Gln Leu His Gly Lys Ser
            20                  25                  30
Asp Ser Pro Asn Val Tyr Thr Glu Lys Lys Glu Ile Ala Ile Leu Arg
        35                  40                  45
Glu Arg Leu Thr Glu Leu Glu Arg Lys Leu Thr Phe Glu Gln Gln Arg
    50                  55                  60
Ser Asp Leu Trp Glu Arg Leu Tyr Val Glu Ala Lys Asp Gln Asn Gly
65                  70                  75                  80
Lys Gln Gly Thr Asp Gly Lys Lys Lys Gly Gly Arg Gly Ser His Arg
                85                  90                  95
Ala Lys Asn Lys Ser Lys Glu Thr Phe Leu Gly Ser Val Lys Glu Thr
            100                 105                 110
Phe Asp Ala Met Lys Asn Ser Thr Lys Glu Phe Val Arg His His Lys
        115                 120                 125
Glu Lys Ile Lys Gln Ala Lys Glu Ala Val Lys Glu Asn Leu Lys Lys
    130                 135                 140
Phe Ser Asp Ser Val Lys Ser Thr Phe Arg His Phe Lys Asp Thr Thr
145                 150                 155                 160
Lys Asn Ile Phe Asp Glu Lys Gly Asn Lys Arg Phe Gly Ala Thr Lys
                165                 170                 175
Glu Ala Ala Glu Lys Pro Arg Thr Val Phe Ser Asp Tyr Leu His Pro
```

4495

```
                  180                    185                    190
    Gln Tyr Lys Ala Pro Thr Glu Asn His His Asn Arg Pro Tyr Tyr Ala
            195                    200                    205
    Lys
```

```
<210> 5323
<211> 475
<212> DNA
<213> Homo sapiens
```

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<400> 5323
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tgactggccc gcctcagtga tgccaggccc actgacagca gcagagagcg aggggcagtc
120
catagctgcc aggcctttct gcccacacca cgccacttat atggcctcct gccatgggca
180
gagtagggag gtgaggtgct cgtggtgccc agagtcctca tcaaggagtg aaaccagagt
240
gtggccatag ccagtaagaa cagcacgctg cagcccagcc catcagcctc aggcactgag
300
ctctctgcac actccatgaa tgcagagcag catcaggctg gcctcagccc cttcccgtct
360
taggccagcc ccaagggtgc tgtggttcct cgggatgcca gagctccccc aagctgtggc
420
tgtgcctggc tgggaccttt ccccctcctg ctcagggaag tttcccaccc ccggg
475
```

```
<210> 5324
<211> 105
<212> PRT
<213> Homo sapiens
```

```
<400> 5324
Met Glu Cys Ala Glu Ser Ser Val Pro Glu Ala Asp Gly Leu Gly Cys
1               5                   10                  15
Ser Val Leu Phe Leu Leu Ala Met Ala Thr Leu Trp Phe His Ser Leu
            20                  25                  30
Met Arg Thr Leu Gly Thr Thr Ser Thr Ser Pro Pro Tyr Ser Ala His
        35                  40                  45
Gly Arg Arg Pro Tyr Lys Trp Arg Gly Val Gly Arg Lys Ala Trp Gln
    50                  55                  60
Leu Trp Thr Ala Pro Arg Ser Leu Leu Leu Ser Val Gly Leu Ala Ser
65                  70                  75                  80
Leu Arg Arg Ala Ser Gln His Ala Val Met Leu Pro Gln Leu Leu Ala
                85                  90                  95
Val Ser Cys Leu Pro Asp Pro Gly Arg
            100                 105
```

```
<210> 5325
<211> 938
<212> DNA
<213> Homo sapiens
```

```
<400> 5325
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ccgctccggt cccgactgtc gggctctcgg ccgagtcgcc ccggacaatc acaaagagtg
120
tgtaggccag ccccggtcac agagtgcacc gtatcctgtc acttctggat gtgagggaga
180
agtgagtcat ctcattcccc tccgtggatc agaggacttg gactagatag aagcatgtgg
240
tgtctcctac gaggcctggg ccggcctgga gccctggcac ggggagccct ggggcagcag
300
caatccctgg gtgcccgggc cctggccagc gcaggctctg agagccggga cgagtacagc
360
tatgtggtgg tgggcgcggg ctcggcgggc tgcgtgctgg ctgggaggct cacggaggac
420
cccgccgagc gcgtgctgct gctggaggcc gggcccaagg acgtgcgcgc ggggagcaag
480
cggctctcgt ggaagatcca catgcccgcg ccctggtgg ccaacctgtg cgacgacagg
540
tacaactggt gctaccacac agaggtgcag cggggcctgg acggccgcgt gctgtactgg
600
ccacgcggcc gcgtctgggg tggctcctca tccctcaatg ccatggtcta cgtccgtggg
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720
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780
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840
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900
gagggcttcg gctggatgga catgaccatc catgaagg
938
```

```
<210> 5326
<211> 234
<212> PRT
<213> Homo sapiens
```

```
<400> 5326
Met Trp Cys Leu Leu Arg Gly Leu Gly Arg Pro Gly Ala Leu Ala Arg
1               5                   10                  15
Gly Ala Leu Gly Gln Gln Gln Ser Leu Gly Ala Arg Ala Leu Ala Ser
            20                  25                  30
Ala Gly Ser Glu Ser Arg Asp Glu Tyr Ser Tyr Val Val Val Gly Ala
        35                  40                  45
Gly Ser Ala Gly Cys Val Leu Ala Gly Arg Leu Thr Glu Asp Pro Ala
    50                  55                  60
Glu Arg Val Leu Leu Leu Glu Ala Gly Pro Lys Asp Val Arg Ala Gly
65                  70                  75                  80
Ser Lys Arg Leu Ser Trp Lys Ile His Met Pro Ala Ala Leu Val Ala
                85                  90                  95
Asn Leu Cys Asp Asp Arg Tyr Asn Trp Cys Tyr His Thr Glu Val Gln
```

4497

```
              100                  105                  110
Arg Gly Leu Asp Gly Arg Val Leu Tyr Trp Pro Arg Gly Arg Val Trp
         115                  120                  125
Gly Gly Ser Ser Ser Leu Asn Ala Met Val Tyr Val Arg Gly His Ala
     130                  135                  140
Glu Asp Tyr Glu Arg Trp Gln Arg Gln Gly Ala Arg Gly Trp Asp Tyr
145                  150                  155                  160
Ala His Cys Leu Pro Tyr Phe Arg Lys Ala Gln Gly His Xaa Ala Gly
             165                  170                  175
Arg Gln Pro Val Pro Gly Arg Asp Gly Pro Leu Arg Val Ser Arg Gly
         180                  185                  190
Lys Thr Asn His Pro Leu His Cys Ala Phe Leu Glu Ala Thr Gln Gln
     195                  200                  205
Ala Gly Tyr Pro Leu Thr Glu Asp Met Asn Gly Phe Gln Gln Glu Gly
     210                  215                  220
Phe Gly Trp Met Asp Met Thr Ile His Glu
225                  230
```

```
<210> 5327
<211> 2084
<212> DNA
<213> Homo sapiens

<400> 5327
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120
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180
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540
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660
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720
cggaggtgcc acctggacgt gaacgaatgt gcctcccagc cctgtcagaa tggtgggacc
780
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840
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900
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gtggagaacg gctctgcggt gtgtgtgtgc caggccggat acaccggagc agcctgcgag
960
atggatgtgg acgactgcag ccctgacccc tgcctgaatg gaggctcttg tgttgaccta
1020
gtggggaatt acacctgctt gtgtgccgag cccttcaagg gacttcgctg tgagacagga
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1200
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1260
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1320
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1380
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1440
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1620
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1680
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1740
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1800
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1860
caagcagggt acatgggacg ccgatgccag gcagaggtgg actgcggccc cccggaggag
1920
gtgaagcacg ccacactgcg cttcaacggc acgcggctgg gcgcggtggc cctgtatgca
1980
tgtgaccgtg gctacagcct gagcgccccc agccgcatcc gggtctgcca gccacacggt
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2084

<210> 5328
<211> 694
<212> PRT
<213> Homo sapiens

<400> 5328
Glu His Ser Gly Leu Tyr Val Asn Asn Asn Gly Ile Ile Ser Phe Leu
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Lys Glu Val Ser Gln Phe Thr Pro Val Ala Phe Pro Ile Ala Lys Asp
            20   25   30
Arg Cys Val Val Ala Ala Phe Trp Ala Asp Val Asp Asn Arg Arg Ala
        35   40   45
Gly Asp Val Tyr Tyr Arg Glu Ala Thr Asp Pro Ala Met Leu Arg Arg

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        50                      55                      60
Ala Thr Glu Asp Val Arg His Tyr Phe Pro Glu Leu Leu Asp Phe Asn
65                      70                      75                      80
Ala Thr Trp Val Phe Val Ala Thr Trp Tyr Arg Val Thr Phe Phe Gly
                85                      90                      95
Gly Ser Ser Ser Ser Pro Val Asn Thr Phe Gln Thr Val Leu Ile Thr
                100                     105                     110
Asp Gly Lys Leu Ser Phe Thr Ile Phe Asn Tyr Glu Ser Ile Val Trp
            115                     120                     125
Thr Thr Gly Thr His Ala Ser Ser Gly Gly Asn Ala Thr Gly Leu Gly
        130                     135                     140
Gly Ile Ala Ala Gln Ala Gly Phe Asn Ala Gly Asp Gly Gln Arg Tyr
145                     150                     155                     160
Phe Ser Ile Pro Gly Ser Arg Thr Ala Asp Met Ala Glu Val Glu Thr
                165                     170                     175
Thr Thr Asn Val Gly Val Pro Gly Arg Trp Ala Phe Arg Ile Asp Asp
                180                     185                     190
Ala Gln Val Arg Val Gly Gly Cys Gly His Thr Thr Ser Val Cys Leu
            195                     200                     205
Ala Leu Arg Pro Cys Leu Asn Gly Gly Lys Cys Ile Asp Asp Cys Val
        210                     215                     220
Thr Gly Asn Pro Ser Tyr Thr Cys Ser Cys Leu Ser Gly Phe Thr Gly
225                     230                     235                     240
Arg Arg Cys His Leu Asp Val Asn Glu Cys Ala Ser Gln Pro Cys Gln
                245                     250                     255
Asn Gly Gly Thr Cys Thr His Gly Ile Asn Ser Phe Arg Cys Gln Cys
                260                     265                     270
Pro Ala Gly Phe Gly Gly Pro Thr Cys Glu Thr Ala Gln Ser Pro Cys
            275                     280                     285
Asp Thr Lys Glu Cys Gln His Gly Gly Gln Cys Gln Val Glu Asn Gly
        290                     295                     300
Ser Ala Val Cys Val Cys Gln Ala Gly Tyr Thr Gly Ala Ala Cys Glu
305                     310                     315                     320
Met Asp Val Asp Asp Cys Ser Pro Asp Pro Cys Leu Asn Gly Gly Ser
                325                     330                     335
Cys Val Asp Leu Val Gly Asn Tyr Thr Cys Leu Cys Ala Glu Pro Phe
            340                     345                     350
Lys Gly Leu Arg Cys Glu Thr Gly Asp His Pro Val Pro His Ala Cys
        355                     360                     365
Leu Ser Ala Pro Cys His Asn Gly Gly Thr Cys Val Asp Ala Asp Gln
        370                     375                     380
Gly Tyr Val Cys Glu Cys Pro Glu Gly Phe Met Gly Leu Asp Cys Arg
385                     390                     395                     400
Glu Arg Val Xaa Pro Met Thr Val Ser Ala Ala Thr Glu Ala Asp Ala
                405                     410                     415
Trp Ala Pro Thr Pro Pro Ser Ala His Ala Pro Cys Gly Xaa Ser Leu
                420                     425                     430
Gly Phe Ser Val Asn Leu Lys Ser Gln Pro Xaa Pro Cys Asn Met Asn
            435                     440                     445
Thr Gln Cys Pro Asp Gly Gly Tyr Cys Met Glu His Gly Gly Ser Tyr
        450                     455                     460
Leu Cys Val Cys His Thr Asp His Asn Ala Ser His Ser Leu Pro Ser
465                     470                     475                     480
Pro Cys Asp Ser Asp Pro Cys Phe Asn Gly Gly Ser Cys Asp Ala His
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                   485                       490                       495
Asp Asp Ser Tyr Thr Cys Glu Cys Pro Arg Gly Phe His Gly Lys His
                500                       505                       510
Cys Glu Lys Ala Arg Pro His Leu Cys Ser Ser Gly Pro Cys Arg Asn
            515                       520                       525
Gly Gly Thr Cys Lys Glu Ala Gly Gly Glu Tyr His Cys Ser Cys Pro
        530                       535                       540
Tyr Arg Phe Thr Gly Arg His Cys Glu Ile Gly Lys Pro Asp Ser Cys
545                       550                       555                       560
Ala Ser Gly Pro Cys His Asn Gly Gly Thr Cys Phe His Tyr Ile Gly
                565                       570                       575
Lys Tyr Lys Cys Asp Cys Pro Pro Gly Phe Ser Gly Arg His Cys Glu
            580                       585                       590
Ile Ala Pro Ser Pro Cys Phe Arg Ser Pro Cys Val Asn Gly Gly Thr
        595                       600                       605
Cys Glu Asp Arg Asp Thr Asp Phe Phe Cys His Cys Gln Ala Gly Tyr
    610                       615                       620
Met Gly Arg Arg Cys Gln Ala Glu Val Asp Cys Gly Pro Pro Glu Glu
625                       630                       635                       640
Val Lys His Ala Thr Leu Arg Phe Asn Gly Thr Arg Leu Gly Ala Val
                645                       650                       655
Ala Leu Tyr Ala Cys Asp Arg Gly Tyr Ser Leu Ser Ala Pro Ser Arg
            660                       665                       670
Ile Arg Val Cys Gln Pro His Gly Val Trp Ser Glu Pro Pro Gln Cys
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Leu Gly Asp Ser Val Gly
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<210> 5329
<211> 2582
<212> DNA
<213> Homo sapiens

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120
tgggcagagg tctgcgagaa attccaggcg gcgctcgctc tgtcgcgggt ggaactgcat
180
aaaaatccgg agaaggaacc atacaagtcc aaatacagcg cccgggcgct actggaagag
240
gtcaaggcgc tgctcggccc tgcgcctgag gacgaggatg agcggcctga ggccgaggac
300
ggcccgggtg ccggtgacca cgccctgggg ctgccggctg aggtggtgga gcccgagggg
360
cccgtcgccc agcgagcggt gaggctggca gtcatcgagt tccacctcgg ggtgaaccac
420
atcgacacgg aggagctgtc ggcggggggag gagcacctgg tgaaatgcct gcggctgctg
480
cgcaggtacc ggctctcgca cgactgcatc tctctctgca tccaggcgca gaataacctg
540
ggtatcttgt ggtctgaaag agaagaaatt gaaactgcac aggcttacct agagtcatca
600
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gaagcactat ataatcagta tatgaaagag gttgggagtc ctcctcttga tcctactgag
660
cgttttcttc ctgaagaaga gaaacttact gaacaagaga gatcaaaaag atttgaaaag
720
gtttatactc ataacctata ttacctagct caagtctacc agcatctgga aatgtttgag
780
aaggctgctc actattgcca tagtacacta aaacgccagc ttgagcacaa tgcctaccat
840
cctatagagt gggctatcaa tgctgctacc ttgtcacagt tttacatcaa taagctatgc
900
tttatggagg ccaggcactg tttatcagct gctaatgtca tttttggtca aactggaaag
960
atctcagcca cagaagacac tcctgaagct gaaggagaag tgccagagct ttatcatcaa
1020
agaaaggggg aaatagcaag gtgctggatc aaatactgtt tgactctcat gcagaatgcc
1080
caactctcca tgcaggacaa cataggagag cttgatcttg ataaacagtc tgaacttaga
1140
gctttaagga aaaagaact agatgaggag gaaagcattc ggaaaaaagc tgtgcagttt
1200
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1260
cctttagatt ttgaagaagc cagagaactt ttcttattgg gtcagcacta tgtctttgag
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gcaaaagagt tctttcagat tgatggttat gtcactgacc atattgaagt tgtccaagac
1380
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1620
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1680
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1800
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1860
catcctgagg ccgcccagga aatagaagtt gagctagaac ttagtaaaga gatggttagt
1920
cttctcccaa caaaaatgga gagattcaga accaagatgg ccctgactta atccttgttt
1980
ttaaagaaag gaaatgtgca atattgaagt gatctttttc cctagtcaga caggcccaat
2040
tccattgtga tgtttacctt tatagccagg tgagtgcagt ttgaacttga gatacagtca
2100
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2160
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2220
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tacagacatt tctaccctca gtttctaaat gtagactatt tgttggctag tacttgatag
2280
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2340
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2400
ccacccaaaa tctttccctt ttgaaaatac taaaaactaa gttatgttat tataaagtgt
2460
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2580
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2582

<210> 5330
<211> 308
<212> PRT
<213> Homo sapiens

<400> 5330
Trp Ile Lys Tyr Cys Leu Thr Leu Met Gln Asn Ala Gln Leu Ser Met
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Gln Asp Asn Ile Gly Glu Leu Asp Leu Asp Lys Gln Ser Glu Leu Arg
            20   25   30
Ala Leu Arg Lys Lys Glu Leu Asp Glu Glu Glu Ser Ile Arg Lys Lys
        35   40   45
Ala Val Gln Phe Gly Thr Gly Glu Leu Cys Asp Ala Ile Ser Ala Val
    50   55   60
Glu Glu Lys Val Ser Tyr Leu Arg Pro Leu Asp Phe Glu Glu Ala Arg
65   70   75   80
Glu Leu Phe Leu Leu Gly Gln His Tyr Val Phe Glu Ala Lys Glu Phe
                85   90   95
Phe Gln Ile Asp Gly Tyr Val Thr Asp His Ile Glu Val Val Gln Asp
            100   105   110
His Ser Ala Leu Phe Lys Val Leu Ala Phe Phe Glu Thr Asp Met Glu
        115   120   125
Arg Arg Cys Lys Met His Lys Arg Arg Ile Ala Met Leu Glu Pro Leu
        130   135   140
Thr Val Asp Leu Asn Pro Gln Tyr Tyr Leu Leu Val Asn Arg Gln Ile
145   150   155   160
Gln Phe Glu Ile Ala His Ala Tyr Tyr Asp Met Met Asp Leu Lys Val
                165   170   175
Ala Ile Ala Asp Arg Leu Arg Asp Pro Asp Ser His Ile Val Lys Lys
            180   185   190
Ile Asn Asn Leu Asn Lys Ser Ala Leu Lys Tyr Tyr Gln Leu Phe Leu
        195   200   205
Asp Ser Leu Arg Asp Pro Asn Lys Val Phe Pro Glu His Ile Gly Glu
        210   215   220
Asp Val Leu Arg Pro Ala Met Leu Ala Lys Phe Arg Val Ala Arg Leu
225   230   235   240
Tyr Gly Lys Ile Ile Thr Ala Asp Pro Lys Lys Glu Leu Glu Asn Leu
                245   250   255
Ala Thr Ser Leu Glu His Tyr Lys Phe Ile Val Asp Tyr Cys Glu Lys

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          260                   265                   270
His Pro Glu Ala Ala Gln Glu Ile Glu Val Glu Leu Glu Leu Ser Lys
      275                   280                   285
Glu Met Val Ser Leu Leu Pro Thr Lys Met Glu Arg Phe Arg Thr Lys
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Met Ala Leu Thr
305


<210> 5331
<211> 1069
<212> DNA
<213> Homo sapiens


<400> 5331
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gccaaccaca gagagagaaa taagaccaga gggaagatga tcaccgattc tggcaagttc
120
tccggcagtt ctccggcgcc cccaagccag ccgcagggtc tgagctatgc gngaggacgc
180
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240
cacccccgcg ctgggcgtcc gcacacgcag ccgagcaagc cgnnaggatc cactagttcc
300
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360
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480
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540
gttactccca ggagtgtgct gagcagaagg caagctcttg ctggatgaaa cccctccagg
600
tggggttggg gagacttgat attcacatcc aacagtttga aaagggagag ctcaattccc
660
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720
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780
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840
cttctgtcac agttattatg gtaatatgag gcaatctgat tagcttcaca gactgagtct
900
ccacaacacc aaaatatcca gatgtaaacc ccaaacttgt acacaaaaga aagcacagat
960
tgtttacctg ttgtggattt tagatgtaac aaatgtttat acaaatacat acatgtacac
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1069


<210> 5332
<211> 61
<212> PRT
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<213> Homo sapiens

<400> 5332
Lys Phe Ala Leu Glu Tyr Arg Thr Thr Arg Glu Arg Val Leu Gln Gln
 1   5   10   15
Lys Gln Lys Arg Ala Asn His Arg Glu Arg Asn Lys Thr Arg Gly Lys
            20   25   30
Met Ile Thr Asp Ser Gly Lys Phe Ser Gly Ser Ser Pro Ala Pro Pro
        35   40   45
Ser Gln Pro Gln Gly Leu Ser Tyr Ala Xaa Gly Arg Gly
    50   55   60

<210> 5333
<211> 883
<212> DNA
<213> Homo sapiens

<400> 5333
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cggccgggca gcatggcggg gctggagctc ttgtcggacc agggctaccg ggtggacggg
120
cggcgcnngc gggagctgcg caagatccag gcgcggatgg gcgtgttcgc gcaggctgac
180
ggctcggcct acattgagca gggcaacacc aaggcactgg ctgtggtcta cggcccgcac
240
gagatccggg gctcccgggc tcgagccctg ccggacaggg ccctagtgaa ctgtcaatat
300
agttcagcga ccttcagcac aggtgagcgc aagcgacggc cacatgggga ccgtaagtcc
360
tgtgagatgg gcctgcagct ccgccagact ttcgaagcag ccatcctcac acagctgcac
420
ccacgctccc agattgatat ctatgtgcag gtgctacagg cagatggtgg gacctatgca
480
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660
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720
gctgcccagg ctgcccgaga tgtgcacacc ctcttagatc gagtggtccg gcagcatgtg
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cgtgaggcct ctatcttgct gggggactga ccacccagcc acccatgtcc agaataaaac
840
cctcctctgc ccacaaaaaa aaaaaaaaaa aaaaaaaaaa aaa
883

<210> 5334
<211> 269
<212> PRT
<213> Homo sapiens

<400> 5334
Glu Pro Pro Gly Ala Val Val Leu Pro Arg Ser Leu Glu Val Gly Arg
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Glu Arg Thr Trp Arg Pro Gly Ser Met Ala Gly Leu Glu Leu Leu Ser
        20   25   30
Asp Gln Gly Tyr Arg Val Asp Gly Arg Arg Xaa Arg Glu Leu Arg Lys
        35   40   45
Ile Gln Ala Arg Met Gly Val Phe Ala Gln Ala Asp Gly Ser Ala Tyr
    50   55   60
Ile Glu Gln Gly Asn Thr Lys Ala Leu Ala Val Val Tyr Gly Pro His
65   70   75   80
Glu Ile Arg Gly Ser Arg Ala Arg Ala Leu Pro Asp Arg Ala Leu Val
                85   90   95
Asn Cys Gln Tyr Ser Ser Ala Thr Phe Ser Thr Gly Glu Arg Lys Arg
            100   105   110
Arg Pro His Gly Asp Arg Lys Ser Cys Glu Met Gly Leu Gln Leu Arg
        115   120   125
Gln Thr Phe Glu Ala Ala Ile Leu Thr Gln Leu His Pro Arg Ser Gln
    130   135   140
Ile Asp Ile Tyr Val Gln Val Leu Gln Ala Asp Gly Gly Thr Tyr Ala
145   150   155   160
Ala Cys Val Asn Ala Ala Thr Leu Ala Val Leu Asp Ala Gly Ile Pro
                165   170   175
Met Arg Asp Phe Val Cys Ala Cys Ser Ala Gly Phe Val Asp Gly Thr
            180   185   190
Ala Leu Ala Asp Leu Ser His Val Glu Glu Ala Ala Gly Gly Pro Gln
        195   200   205
Leu Ala Leu Ala Leu Leu Pro Ala Ser Gly Gln Ile Ala Leu Leu Glu
    210   215   220
Met Asp Ala Arg Leu His Glu Asp His Leu Glu Arg Val Leu Glu Ala
225   230   235   240
Ala Ala Gln Ala Ala Arg Asp Val His Thr Leu Leu Asp Arg Val Val
                245   250   255
Arg Gln His Val Arg Glu Ala Ser Ile Leu Leu Gly Asp
            260   265

<210> 5335
<211> 4282
<212> DNA
<213> Homo sapiens

<400> 5335
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120
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240
cctcgcctgc gaagcatcac gtccgcttcc cgacgctgag ggcagccccg tccagggcag
300
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360

4506

cctggagtgg cccacctgct tgcccccagc atggcgtccg acactcccga gtcgctgatg
420
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480
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720
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840   ✱
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900
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1860
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1980

4507

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2100
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2160
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2820
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3000
cacacacact cctaccccaa ccagactaaa tgcctataac gctgtgagtg tccagtcctt
3060
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3120
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3180
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3360
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3420
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3480
tgccaaacac atccagaacc tgccctcagc cctggaagct agcatcttct ggggccaggg
3540
gcttgcttcc tcgctccata gccctcaact gcccaggcgc tcccaccagc agaactgagc
3600
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ctgcctcctc ctcccagcct gccccgctgc ccagaggacc ccacgcctct cagaggcaga
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3720
actgccctgc agtggccgct tgggcctccc tggcggtccc gccctgccct aggctttacc
3780
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3900
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4140
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4260
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4282


<210> 5336
<211> 766
<212> PRT
<213> Homo sapiens


<400> 5336
Met Ala Ser Asp Thr Pro Glu Ser Leu Met Ala Leu Cys Thr Asp Phe
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Cys Leu Arg Asn Leu Asp Gly Thr Leu Gly Tyr Leu Leu Asp Lys Glu
            20                  25                  30
Thr Leu Arg Leu His Pro Asp Ile Phe Leu Pro Ser Glu Ile Cys Asp
        35                  40                  45
Arg Leu Val Asn Glu Tyr Val Glu Leu Val Asn Ala Ala Cys Asn Phe
    50                  55                  60
Glu Pro His Glu Ser Phe Phe Ser Leu Phe Ser Asp Pro Arg Ser Thr
65                  70                  75                  80
Arg Leu Thr Arg Ile His Leu Arg Glu Asp Leu Val Gln Asp Gln Asp
                85                  90                  95
Leu Glu Ala Ile Arg Lys Gln Asp Leu Val Glu Leu Tyr Leu Thr Asn
            100                 105                 110
Cys Glu Lys Leu Ser Ala Lys Ser Leu Gln Thr Leu Arg Ser Phe Ser
        115                 120                 125
His Thr Leu Val Ser Leu Ser Leu Phe Gly Cys Thr Asn Ile Phe Tyr
    130                 135                 140
Glu Glu Glu Asn Pro Gly Gly Cys Glu Asp Glu Tyr Leu Val Asn Pro
145                 150                 155                 160
Thr Cys Gln Val Leu Val Lys Asp Phe Thr Phe Glu Gly Phe Ser Arg
                165                 170                 175
Leu Arg Phe Leu Asn Leu Gly Arg Met Ile Asp Trp Val Pro Val Glu
```

4509

```
                 180                      185                      190
Ser Leu Leu Arg Pro Leu Asn Ser Leu Ala Ala Leu Asp Leu Ser Gly
        195                      200                      205
Ile Gln Thr Ser Asp Ala Ala Phe Leu Thr Gln Trp Lys Asp Ser Leu
    210                      215                      220
Val Ser Leu Val Leu Tyr Asn Met Asp Leu Ser Asp Asp His Ile Arg
225                      230                      235                      240
Val Ile Val Gln Leu His Lys Leu Arg His Leu Asp Ile Ser Arg Asp
                245                      250                      255
Arg Leu Ser Ser Tyr Tyr Lys Phe Lys Leu Thr Arg Glu Val Leu Ser
            260                      265                      270
Leu Phe Val Gln Lys Leu Gly Asn Leu Met Ser Leu Asp Ile Ser Gly
        275                      280                      285
His Met Ile Leu Glu Asn Cys Ser Ile Ser Lys Met Glu Glu Glu Ala
    290                      295                      300
Gly Gln Thr Ser Ile Glu Pro Ser Lys Ser Ser Ile Ile Pro Phe Arg
305                      310                      315                      320
Ala Leu Lys Arg Pro Leu Gln Phe Leu Gly Leu Phe Glu Asn Ser Leu
                325                      330                      335
Cys Arg Leu Thr His Ile Pro Ala Tyr Lys Val Ser Gly Asp Lys Asn
            340                      345                      350
Glu Glu Gln Val Leu Asn Ala Ile Glu Ala Tyr Thr Glu His Arg Pro
        355                      360                      365
Glu Ile Thr Ser Arg Ala Ile Asn Leu Leu Phe Asp Ile Ala Arg Ile
    370                      375                      380
Glu Arg Cys Asn Gln Leu Leu Arg Ala Leu Lys Leu Val Ile Thr Ala
385                      390                      395                      400
Leu Lys Cys His Lys Tyr Asp Arg Asn Ile Gln Val Thr Gly Ser Ala
                405                      410                      415
Ala Leu Phe Tyr Leu Thr Asn Ser Glu Tyr Arg Ser Glu Gln Ser Val
            420                      425                      430
Lys Leu Arg Arg Gln Val Ile Gln Val Val Leu Asn Gly Met Glu Ser
        435                      440                      445
Tyr Gln Glu Val Thr Val Gln Arg Asn Cys Cys Leu Thr Leu Cys Asn
    450                      455                      460
Phe Ser Ile Pro Glu Glu Leu Glu Phe Gln Tyr Arg Arg Val Asn Glu
465                      470                      475                      480
Leu Leu Leu Ser Ile Leu Asn Pro Thr Arg Gln Asp Glu Ser Ile Gln
                485                      490                      495
Arg Ile Ala Val His Leu Cys Asn Ala Leu Val Cys Gln Val Asp Asn
            500                      505                      510
Asp His Lys Glu Ala Val Gly Lys Met Gly Phe Val Val Thr Met Leu
        515                      520                      525
Lys Leu Ile Gln Lys Lys Leu Leu Asp Lys Thr Cys Asp Gln Val Met
    530                      535                      540
Glu Phe Ser Trp Ser Ala Leu Trp Asn Ile Thr Asp Glu Thr Pro Asp
545                      550                      555                      560
Asn Cys Glu Met Phe Leu Asn Phe Asn Gly Met Lys Leu Phe Leu Asp
                565                      570                      575
Cys Leu Lys Glu Phe Pro Glu Lys Gln Glu Leu His Arg Asn Met Leu
            580                      585                      590
Gly Leu Leu Gly Asn Val Ala Glu Val Lys Glu Leu Arg Pro Gln Leu
        595                      600                      605
Met Thr Ser Gln Phe Ile Ser Val Phe Ser Asn Leu Leu Glu Ser Lys
```

```
        610                    615                    620
Ala Asp Gly Ile Glu Val Ser Tyr Asn Ala Cys Gly Val Leu Ser His
625                         630                    635                    640
Ile Met Phe Asp Gly Pro Glu Ala Trp Gly Val Cys Glu Pro Gln Arg
                645                    650                    655
Glu Glu Val Glu Glu Arg Met Trp Ala Ala Ile Gln Ser Trp Asp Ile
                660                    665                    670
Asn Ser Arg Arg Asn Ile Asn Tyr Arg Ser Phe Glu Pro Ile Leu Arg
                675                    680                    685
Leu Leu Pro Gln Gly Ile Ser Pro Val Ser Gln His Trp Ala Thr Trp
                690                    695                    700
Ala Leu Tyr Asn Leu Val Ser Val Tyr Pro Asp Lys Tyr Cys Pro Leu
705                         710                    715                    720
Leu Ile Lys Glu Gly Gly Met Pro Leu Leu Arg Asp Ile Ile Lys Met
                725                    730                    735
Ala Thr Ala Arg Gln Glu Thr Lys Glu Met Ala Arg Lys Val Ile Glu
                740                    745                    750
His Cys Ser Asn Phe Lys Glu Glu Asn Met Asp Thr Ser Arg
                755                    760                    765


<210> 5337
<211> 2742
<212> DNA
<213> Homo sapiens

<400> 5337
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ttaaacccat gtttaaaagt tttaaaattt gggtagaggc agaaggagaa ggtcgggttg
120
tagaagctgg ggtggccggc agctcgctca tcggtgttcg tgggctttgt cggtccgtgc
180
ctcgtctctc tctggaaagg gagggaggct tcgacgtcga gagggagccg ctgccgcgtt
240
agttccgagc ttgaagtcac taggacttct ctcaaacttg tgtgctgagg agactcagat
300
gttggcctca gctcctaggc tgaactcagc agatcggccc atgaaaactt ctgtattgag
360
acaaaggaag ggatctgtca gaaagcaaca cttgttatct tgggcttggc agcaaggaag
420
aggacaggta gtggagatcc tgcaatctga aaagcagact gaaaggtgac aaagaagctg
480
aagatgggtg gtggagagag gtataacatt ccagcccctc aatctagaaa tgttagtaag
540
aaccaacaac agcttaacag acagaagacc aaggaacaga attcccagat gaagattgtt
600
cataagaaaa aagaaagagg acatggttat aactcatcag cagctgcctg gcaggccatg
660
caaaatgggg ggaagaacaa aaattttcca ataatcaaa gttggaattc tagcttatca
720
ggtcccaggt tacttttaa atctcaagct aatcagaact atgctggtgc caaatttagt
780
gagccgccat caccaagtgt tcttcccaaa ccaccaagcc actgggtccc tgtttccttt
840
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aatccttcag ataaggaaat aatgacattt caacttaaaa ccttacttaa agtacaggta
900
taaaataaga caaatgttta aatttagtta tgttcacgga tagttgtcaa ttggtctgaa
960
acaaattcgc tagggaatct atttgtgtag aactaattaa tgtaaaaaaa acagaccatc
1020
tcgtgttgtg tgcactgtga tataatggta gtatcagtgc aacttaaact aatgattgta
1080
cttgatatta agtgttctca actgagtaac ttttaagtgg aaaccaagtt tagatttggg
1140
gagtggtaaa ggaatcagct tttttctattg ttaggggaag acagtaattt atcattcatg
1200
gaccagtaga ttgttgaaag ttggtgaatc ggattataag cttctagcta acacaaggat
1260
tcagaattag gtaaacatct gaaggtttag tatattagaa acacccaaac cagtaatatg
1320
ctaacctgat gcactgctga aagaaaatgt gaattttttcg taataattgc attttagtga
1380
attgtacagt gggtggaaag ggcatttgga gctcattaga atgagacata gtacacccca
1440
atggccctgt ttattaaatg tagtggatta agtgtctgtc aacaaataca ccaaaaccat
1500
tttttataga aacagtattt aatggtcact caatagcttt caaaatacat ttttgtatta
1560
cagcactgca caagctattc taatagtgct ctggcctcat cattcctgca aagcttgctt
1620
tggggagttg gataatgtga aaattttaag tacctagggg agaaagagcc atgtaaatat
1680
ctgtaataaa cttgtagcat atgtaaagtt ttcttggcct ttatcttaca aaaatggagt
1740
attttagtat gaatttgctg aatgtaagac cgtggactgt tttttataat atggcctaat
1800
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1860
gtatgttata cttgatttgg ttgtaaacta tatttcaaag taaaccctag tgtaataagt
1920
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1980
gtctttaggc tatcaatatt taacttgggc agtacttcat cttgatttat ttggagaaat
2040
acagcttagg catctgctta cctgcttagg catcaagagg tgccaaatta gaaaataggg
2100
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2160
aagcatttaa agttggcaaa acatgttatc aatgtattat gcaagagttt acatcttttg
2220
cataagtggt ccattgggtt gcacctaccc cttgaccaaa caaaaacaaa acatcactgg
2280
caccatactc gaaactacct gtatcctagg ttataagatt gtgaaagcca acaatctata
2340
aggttggagg gactctagtt aatctttggg cttagaggag gaaaaaaaga tagtcccata
2400
ctgcatttca catctcttaa aaatagtttt agcagcttaa accttttttag ttataaaact
2460
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.

tattacacta gggtttactt tgaaatatag tttacaacca aatcaagtat aacatacata
2520
cactggcact ttagcacaag ggcaaacttt aaaaacaagt tattttggac cttttaaaatt
2580
aggccatatt ataaaaaaca gtccacggtc ttacattcag caaattcata ctaaaatact
2640
ccatttttgt aagataaagg ccaagaaaac tttacatatg ctacaagttt attacagata
2700
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2742

<210> 5338
<211> 139
<212> PRT
<213> Homo sapiens

<400> 5338
Met Gly Gly Gly Glu Arg Tyr Asn Ile Pro Ala Pro Gln Ser Arg Asn
  1   5   10   15
Val Ser Lys Asn Gln Gln Gln Leu Asn Arg Gln Lys Thr Lys Glu Gln
             20   25   30
Asn Ser Gln Met Lys Ile Val His Lys Lys Lys Glu Arg Gly His Gly
         35   40   45
Tyr Asn Ser Ser Ala Ala Ala Trp Gln Ala Met Gln Asn Gly Gly Lys
     50   55   60
Asn Lys Asn Phe Pro Asn Asn Gln Ser Trp Asn Ser Ser Leu Ser Gly
65   70   75   80
Pro Arg Leu Leu Phe Lys Ser Gln Ala Asn Gln Asn Tyr Ala Gly Ala
                 85   90   95
Lys Phe Ser Glu Pro Pro Ser Pro Ser Val Leu Pro Lys Pro Pro Ser
             100   105   110
His Trp Val Pro Val Ser Phe Asn Pro Ser Asp Lys Glu Ile Met Thr
         115   120   125
Phe Gln Leu Lys Thr Leu Leu Lys Val Gln Val
     130   135

<210> 5339
<211> 847
<212> DNA
<213> Homo sapiens

<400> 5339
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120
ttgtttgctc ccccttttta aaatatttaa tagcttatgt tcacttctca tagctccttt
180
ctttatgaaa aataacatga aaatagaaaa gttgttctaa gtatactttt tgtatatatt
240
ctagacttat cagatgtaga cttcctagat gattcttcaa cggagagttt gcttctgagt
300
ggggatgaat acaatcagga ctttgattca accaattttg aggaatctca ggatgaggat
360

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gatgctctta atgaaattgt gcgatgtatt tgtgagatgg atgaggagaa tggcttcatg
420
atccagtgtg aagagtgctt gtgttggcaa cacagcgtgt gcatggggct gctggaggag
480
agcattccag agcagtacat ctgctatatc tgccgggacc caccaggtca gaggtggagt
540
gcaaaatatc gttatgataa ggagtggttg aataatggga gaatgtgcgg gttatcattt
600
ttcaaagaaa attattctca tctcaatgcc aaaaagatag tttctacaca tcacctgctt
660
gctgatgtct atggtgttac agaagtgcta cacgggctac agctgaagat tggaatacta
720
aagaataaac atcatcctga ccttcatctc tgggcttgtt ccgggaagcg aaaagaccaa
780
gatcaaataa tagctggggt ggagaaaaaa atagctcaag acacagttaa tcgagaagaa
840
aaaaaaa
847


<210> 5340
<211> 217
<212> PRT
<213> Homo sapiens

<400> 5340
His Glu Asn Arg Lys Val Val Leu Ser Ile Leu Phe Val Tyr Ile Leu
1               5                   10                  15
Asp Leu Ser Asp Val Asp Phe Leu Asp Asp Ser Ser Thr Glu Ser Leu
            20                  25                  30
Leu Leu Ser Gly Asp Glu Tyr Asn Gln Asp Phe Asp Ser Thr Asn Phe
        35                  40                  45
Glu Glu Ser Gln Asp Glu Asp Asp Ala Leu Asn Glu Ile Val Arg Cys
    50                  55                  60
Ile Cys Glu Met Asp Glu Glu Asn Gly Phe Met Ile Gln Cys Glu Glu
65                  70                  75                  80
Cys Leu Cys Trp Gln His Ser Val Cys Met Gly Leu Leu Glu Glu Ser
                85                  90                  95
Ile Pro Glu Gln Tyr Ile Cys Tyr Ile Cys Arg Asp Pro Pro Gly Gln
            100                 105                 110
Arg Trp Ser Ala Lys Tyr Arg Tyr Asp Lys Glu Trp Leu Asn Asn Gly
            115                 120                 125
Arg Met Cys Gly Leu Ser Phe Phe Lys Glu Asn Tyr Ser His Leu Asn
        130                 135                 140
Ala Lys Lys Ile Val Ser Thr His His Leu Leu Ala Asp Val Tyr Gly
145                 150                 155                 160
Val Thr Glu Val Leu His Gly Leu Gln Leu Lys Ile Gly Ile Leu Lys
                165                 170                 175
Asn Lys His His Pro Asp Leu His Leu Trp Ala Cys Ser Gly Lys Arg
                180                 185                 190
Lys Asp Gln Asp Gln Ile Ile Ala Gly Val Glu Lys Lys Ile Ala Gln
            195                 200                 205
Asp Thr Val Asn Arg Glu Glu Lys Lys
        210                 215
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4514

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<210> 5341
<211> 2455
<212> DNA
<213> Homo sapiens

<400> 5341
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120
ctctggggcc tggggcagcc agtgtggcca gtcgctgtgg ccttgaccct gcgctggctc
180
ctgggggatc ccacatgttg cgtgctactt gggctggcca tgttagcacg gccctggctc
240
ggcccctggg tgccccatgg gctgagcctg gcagctgcgg ccctggcact aaccctcctg
300
ccagcacggc tgcccccagg actacgctgg ctgccggctg atgtgatctt cttggccaag
360
atcctccacc tgggcctgaa gatcagggga tgcttgagcc ggcagccgcc tgacaccttt
420
gtagatgcct tcgagcggcg agcacgagcg cagcctggca gggcactctt ggtgtggacg
480
gggcctgggg ccggctcagt cacctttggt gagctggatg cccgggcctg ccaggcggca
540
tgggccctga aggctgagct gggtgaccct gcgagcctgt gtgccgggga gcctactgcc
600
ctccttgtgc tggcttccca ggccgttcca gccctgtgta tgtggctggg gctggccaag
660
ctgggctgcc aacagcctg gatcaacccg catggccggg ggatgcccct ggcgcactct
720
gtgctgagct ctggggcccg ggtgctggtg gtggacccag acctccggga gagcctggag
780
gagatccttc ccaagctgca ggctgagaac atccgctgct tctacctcag ccatacctcc
840
cctacaccag gggtgggggc tctggggcct gccctggatg cagcgccctc ccacccagtg
900
cctgctgacc tgcgtgctgg gatcacatgg agaagccctg ccctcttcat ctatacctcg
960
gggaccactg gcctcccgaa gccagccatc ctcacgcatg agcgggtact gcagatgagc
1020
aagatgctgt ccttatctgg ggccacagct gatgatgtgg tttacacggt cctgcctctg
1080
taccacgtga tgggacttgt cgttgggatc ctcggctgct tagatctcgg agccacctgt
1140
gttctggccc ccaagttctc tacttcctgc ttctgggatg actgtcggca gcatggcgtg
1200
acagtgatcc tgtatgtggg cgagctcctg cggtacttgt gtaacattcc ccagcaacca
1260
gaggaccgga cacatacagt ccgcctggca atgggcaatg gactacgggc tgatgtgtgg
1320
gagaccttcc agcagcgctt cggtcctatt cggatctggg aagtctacgg ctccacagaa
1380
ggcaacatgg gcttagtcaa ctatgtgggg cgctgcgggg ccctgggcaa gatgagctgc
1440
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ctcctccgaa tgctgtcccc ctttgagctg gtgcagttcg acatggaggc ggcggagcct
1500
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1560
accaaggtgg taagccagca acccttcgtg ggctaccgcg cccccgaga gctgtcggaa
1620
cggaagctgg tgcgcaacgt gcggcaatcg ggcgacgttt actacaacac cggggacgta
1680
ctggccatgg accgcgaagg cttcctctac ttccgcgacc gcctcgggga caccttccga
1740
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1800
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1860
gctgctgtgc agctagcccc cggccagact ttcgacgggg agaagttgta ccagcacgtt
1920
cgcgcttggc tccctgccta cgctacccccc catttcatcc gcatccagga cgccatggag
1980
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2040
atcgtggttg accctctgtt tgtactggac aaccgggccc agtccttccg gcccctgacg
2100
gcagaaatgt accaggctgt gtgtgaggga acctggaagc tctgatcacc tggccaaccc
2160
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2220
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2280
atgacagtgg ccctgtagc agtggcagaa taaactcaga tgtgttcaca aaaaaaaaca
2340
cgcacgaggt ggagggcgtg ttgtcgcagg tggacttctt gcaacaggtt aacgtgtatg
2400
gcgtgtgcgt gccaggttgt gagggtaagg tgggcatggc tgctgtgcag ctagc
2455


<210> 5342
<211> 690
<212> PRT
<213> Homo sapiens

<400> 5342
Met Gly Val Arg Gln Gln Leu Ala Leu Leu Leu Leu Leu Leu Leu
1               5                   10                  15
Leu Trp Gly Leu Gly Gln Pro Val Trp Pro Val Ala Val Ala Leu Thr
                20                  25                  30
Leu Arg Trp Leu Leu Gly Asp Pro Thr Cys Cys Val Leu Leu Gly Leu
            35                  40                  45
Ala Met Leu Ala Arg Pro Trp Leu Gly Pro Trp Val Pro His Gly Leu
        50                  55                  60
Ser Leu Ala Ala Ala Ala Leu Ala Leu Thr Leu Leu Pro Ala Arg Leu
65                  70                  75                  80
Pro Pro Gly Leu Arg Trp Leu Pro Ala Asp Val Ile Phe Leu Ala Lys
                85                  90                  95
Ile Leu His Leu Gly Leu Lys Ile Arg Gly Cys Leu Ser Arg Gln Pro
```

4516

```
                   100                   105                   110
Pro Asp Thr Phe Val Asp Ala Phe Glu Arg Arg Ala Arg Ala Gln Pro
            115                   120                   125
Gly Arg Ala Leu Leu Val Trp Thr Gly Pro Gly Ala Gly Ser Val Thr
        130                   135                   140
Phe Gly Glu Leu Asp Ala Arg Ala Cys Gln Ala Ala Trp Ala Leu Lys
145                   150                   155                   160
Ala Glu Leu Gly Asp Pro Ala Ser Leu Cys Ala Gly Glu Pro Thr Ala
                165                   170                   175
Leu Leu Val Leu Ala Ser Gln Ala Val Pro Ala Leu Cys Met Trp Leu
                180                   185                   190
Gly Leu Ala Lys Leu Gly Cys Pro Thr Ala Trp Ile Asn Pro His Gly
            195                   200                   205
Arg Gly Met Pro Leu Ala His Ser Val Leu Ser Ser Gly Ala Arg Val
        210                   215                   220
Leu Val Val Asp Pro Asp Leu Arg Glu Ser Leu Glu Glu Ile Leu Pro
225                   230                   235                   240
Lys Leu Gln Ala Glu Asn Ile Arg Cys Phe Tyr Leu Ser His Thr Ser
                245                   250                   255
Pro Thr Pro Gly Val Gly Ala Leu Gly Ala Ala Leu Asp Ala Ala Pro
                260                   265                   270
Ser His Pro Val Pro Ala Asp Leu Arg Ala Gly Ile Thr Trp Arg Ser
            275                   280                   285
Pro Ala Leu Phe Ile Tyr Thr Ser Gly Thr Thr Gly Leu Pro Lys Pro
        290                   295                   300
Ala Ile Leu Thr His Glu Arg Val Leu Gln Met Ser Lys Met Leu Ser
305                   310                   315                   320
Leu Ser Gly Ala Thr Ala Asp Asp Val Val Tyr Thr Val Leu Pro Leu
                325                   330                   335
Tyr His Val Met Gly Leu Val Val Gly Ile Leu Gly Cys Leu Asp Leu
            340                   345                   350
Gly Ala Thr Cys Val Leu Ala Pro Lys Phe Ser Thr Ser Cys Phe Trp
        355                   360                   365
Asp Asp Cys Arg Gln His Gly Val Thr Val Ile Leu Tyr Val Gly Glu
        370                   375                   380
Leu Leu Arg Tyr Leu Cys Asn Ile Pro Gln Gln Pro Glu Asp Arg Thr
385                   390                   395                   400
His Thr Val Arg Leu Ala Met Gly Asn Gly Leu Arg Ala Asp Val Trp
            405                   410                   415
Glu Thr Phe Gln Gln Arg Phe Gly Pro Ile Arg Ile Trp Glu Val Tyr
            420                   425                   430
Gly Ser Thr Glu Gly Asn Met Gly Leu Val Asn Tyr Val Gly Arg Cys
            435                   440                   445
Gly Ala Leu Gly Lys Met Ser Cys Leu Leu Arg Met Leu Ser Pro Phe
        450                   455                   460
Glu Leu Val Gln Phe Asp Met Glu Ala Ala Glu Pro Val Arg Asp Asn
465                   470                   475                   480
Gln Gly Phe Cys Ile Pro Val Gly Leu Gly Glu Pro Gly Leu Leu Leu
                485                   490                   495
Thr Lys Val Val Ser Gln Gln Pro Phe Val Gly Tyr Arg Gly Pro Arg
            500                   505                   510
Glu Leu Ser Glu Arg Lys Leu Val Arg Asn Val Arg Gln Ser Gly Asp
            515                   520                   525
Val Tyr Tyr Asn Thr Gly Asp Val Leu Ala Met Asp Arg Glu Gly Phe
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```
        530                   535                   540
Leu Tyr Phe Arg Asp Arg Leu Gly Asp Thr Phe Arg Trp Lys Gly Glu
545                   550                   555                   560
Asn Val Ser Thr His Glu Val Glu Gly Val Leu Ser Gln Val Asp Phe
            565                   570                   575
Leu Gln Gln Val Asn Val Tyr Gly Val Cys Val Pro Gly Cys Glu Gly
            580                   585                   590
Lys Val Gly Met Ala Ala Val Gln Leu Ala Pro Gly Gln Thr Phe Asp
            595                   600                   605
Gly Glu Lys Leu Tyr Gln His Val Arg Ala Trp Leu Pro Ala Tyr Ala
        610                   615                   620
Thr Pro His Phe Ile Arg Ile Gln Asp Ala Met Glu Val Thr Ser Thr
625                   630                   635                   640
Phe Lys Leu Met Lys Thr Arg Leu Val Arg Glu Gly Phe Asn Val Gly
            645                   650                   655
Ile Val Val Asp Pro Leu Phe Val Leu Asp Asn Arg Ala Gln Ser Phe
            660                   665                   670
Arg Pro Leu Thr Ala Glu Met Tyr Gln Ala Val Cys Glu Gly Thr Trp
            675                   680                   685
Lys Leu
        690
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<210> 5343
<211> 752
<212> DNA
<213> Homo sapiens

<400> 5343
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60
gtgttcgaca tggaacaggg gggatggctg aagatggaac gatcgttctt cctcaagaag
120
cggcgggcag attttgtggc tggctctctg agtggacggg tcatagtggc tgggggactt
180
gggaatcaac ccactgtcct ggagacggcg gaagcattcc acccagggaa gaacaaatgg
240
gagatcctcc ctgccatgcc cacaccccgc tgtgcctgct ccagcatagt cgtcaagaac
300
tgcctcctcg ctgtgggagg tgtcaaccag ggtctgagtg acgcagtgga ggccctgtgt
360
gtctctgact cctagctgtc tctgggctca gtacctttgc cctggaccat atcacttcac
420
tcttaacatg aggaatgatc ttgtccaagc agtcggggct acttccaaga atgtcagctc
480
ctgttagcaa ccagtggagt ctggccttgg ggctctaagt tgacctctct atagctccaa
540
atcctaccaa tctcagaaaa ctgtaagagg cacagatgac tccaccagct gcagagctga
600
ctctgaagag agtcttcact tactgcacag gcaaagaaag gcacaggaat atttcctacc
660
tctccctcct gtgagtccca cctccccca ccccatctc caggaggcag gtagagcagt
720
tctgaccgag aggatagact gctgttgctg tc
752
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<210> 5344
<211> 124
<212> PRT
<213> Homo sapiens

<400> 5344
Ser Arg Ser Leu Arg Gln Gly Arg Leu Tyr Arg Gln Pro Lys Phe Leu
1   5   10   15
Arg Thr Met Asp Val Phe Asp Met Glu Gln Gly Gly Trp Leu Lys Met
            20   25   30
Glu Arg Ser Phe Phe Leu Lys Lys Arg Arg Ala Asp Phe Val Ala Gly
        35   40   45
Ser Leu Ser Gly Arg Val Ile Val Ala Gly Gly Leu Gly Asn Gln Pro
    50   55   60
Thr Val Leu Glu Thr Ala Glu Ala Phe His Pro Gly Lys Asn Lys Trp
65   70   75   80
Glu Ile Leu Pro Ala Met Pro Thr Pro Arg Cys Ala Cys Ser Ser Ile
                85   90   95
Val Val Lys Asn Cys Leu Leu Ala Val Gly Gly Val Asn Gln Gly Leu
            100   105   110
Ser Asp Ala Val Glu Ala Leu Cys Val Ser Asp Ser
        115   120

<210> 5345
<211> 1912
<212> DNA
<213> Homo sapiens

<400> 5345
nnctagaatt cagcggccgc tgaattctag gcggcgcggc ggcgacggag caccggcggc
60
ggcagggcga gagcattaaa tgaaagcaaa agagttaata atggcaacac ggctccagaa
120
gactcttccc ctgccaagaa aactcgtaga tgccagagac aggagtcgaa aaagatgcct
180
gtggctggag gaaaagctaa taggacagg acagaagaca agcaagatgg tatgccagga
240
aggtcatggg ccagcaaaag ggtctctgaa tctgtgaagg ccttgctgtt aaagggcaaa
300
gctcctgtgg acccagagtg tacagccaag gtggggaagg ctcatgtgta ttgtgaagga
360
aatgatgtct atgatgtcat gctaaatcag accaatctcc agttcaacaa caacaagtac
420
tatctgattc agctattaga agatgatgcc cagaggaact tcagtgtttg gatgagatgg
480
ggccgagttg ggaaaatggg acagcacagc ctggtggctt gttcaggcaa tctcaacaag
540
gccaaggaaa tctttcagaa gaaattcctt gacaaaacga aaaacaattg ggaagatcga
600
gaaaagtttg agaaggtgcc tggaaaatat gatatgctac agatggacta tgccaccaat
660
actcaggatg aagaggaaac aaagaaagag gaatctctta aatctccctt gaagccagag
720

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tcacagctag atcttcgggt acaggagtta ataaagttga tctgtaatgt tcaggccatg
780
gaagaaatga tgatggaaat gaagtataat accaagaaag ccccacttgg gaagctgaca
840
gtggcacaaa tcaaggcagg ttaccagtct cttaagaaga ttgaggattg tattcgggct
900
ggccagcatg gacgagctct catggaagca tgcaatgaat tctacaccag gattccgcat
960
gactttggac tccgtactcc tccactaatc cggacacaga aggaactgtc agaaaaaata
1020
caattactag aggctttggg agacattgaa attgctatta agctggtgaa aacagagcta
1080
caaagcccag aacacccatt ggaccaacac tatagaaacc tacattgtgc cttgcgcccc
1140
cttgaccatg aaagttacga gttcaaagtg atttcccagt acctacaatc tacccatgct
1200
cccacacaca gcgactatac catgaccttg ctggatttgt ttgaagtgga gaaggatggt
1260
gagaaagaag ccttcagaga ggaccttcat aacaggatgc ttctatggca tggttccagg
1320
atgagtaact gggtgggaat cttgagccat gggcttcgaa ttgccccacc tgaagctccc
1380
atcacaggtt acatgtttgg gaaaggaatc tactttgctg acatgtcttc caagagtgcc
1440
aattactgct ttgcctctcg cctaaagaat acaggactgc tgctcttatc agaggtagct
1500
ctaggtcagt gtaatgaact actagaggcc aatcctaagg ccgaaggatt gcttcaaggt
1560
aaacatagca ccaaggggct gggcaagatg gctcccagtt ctgcccactt cgtcaccctg
1620
aatgggagta cagtgccatt aggaccagca agtgacacag gaattctgaa tccagatggt
1680
tataccctca actacaatga atatattgta tataacccca accaggtccg tatgcggtac
1740
cttttaaagg ttcagtttaa tttccttcag ctgtggtgaa tgttgatatt aaataaacca
1800
gagatctgat cttcaagcaa gaaaataagc agtgttgtac ttgtgaattt tgtgatattt
1860
tatgtaataa aaactgtaca ggtctaaaaa aaaaaaaaa aaaaaaaaa aa
1912
```

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<210> 5346
<211> 534
<212> PRT
<213> Homo sapiens

<400> 5346
Met Pro Val Ala Gly Gly Lys Ala Asn Lys Asp Arg Thr Glu Asp Lys
1               5                   10                  15
Gln Asp Gly Met Pro Gly Arg Ser Trp Ala Ser Lys Arg Val Ser Glu
            20                  25                  30
Ser Val Lys Ala Leu Leu Leu Lys Gly Lys Ala Pro Val Asp Pro Glu
        35                  40                  45
Cys Thr Ala Lys Val Gly Lys Ala His Val Tyr Cys Glu Gly Asn Asp
```

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        50                          55                          60
Val Tyr Asp Val Met Leu Asn Gln Thr Asn Leu Gln Phe Asn Asn Asn
65                          70                          75                          80
Lys Tyr Tyr Leu Ile Gln Leu Leu Glu Asp Asp Ala Gln Arg Asn Phe
                85                          90                          95
Ser Val Trp Met Arg Trp Gly Arg Val Gly Lys Met Gly Gln His Ser
                100                         105                         110
Leu Val Ala Cys Ser Gly Asn Leu Asn Lys Ala Lys Glu Ile Phe Gln
                115                         120                         125
Lys Lys Phe Leu Asp Lys Thr Lys Asn Asn Trp Glu Asp Arg Glu Lys
        130                         135                         140
Phe Glu Lys Val Pro Gly Lys Tyr Asp Met Leu Gln Met Asp Tyr Ala
145                         150                         155                         160
Thr Asn Thr Gln Asp Glu Glu Glu Thr Lys Lys Glu Glu Ser Leu Lys
                165                         170                         175
Ser Pro Leu Lys Pro Glu Ser Gln Leu Asp Leu Arg Val Gln Glu Leu
                180                         185                         190
Ile Lys Leu Ile Cys Asn Val Gln Ala Met Glu Glu Met Met Met Glu
                195                         200                         205
Met Lys Tyr Asn Thr Lys Lys Ala Pro Leu Gly Lys Leu Thr Val Ala
        210                         215                         220
Gln Ile Lys Ala Gly Tyr Gln Ser Leu Lys Lys Ile Glu Asp Cys Ile
225                         230                         235                         240
Arg Ala Gly Gln His Gly Arg Ala Leu Met Glu Ala Cys Asn Glu Phe
                245                         250                         255
Tyr Thr Arg Ile Pro His Asp Phe Gly Leu Arg Thr Pro Pro Leu Ile
                260                         265                         270
Arg Thr Gln Lys Glu Leu Ser Glu Lys Ile Gln Leu Leu Glu Ala Leu
                275                         280                         285
Gly Asp Ile Glu Ile Ala Ile Lys Leu Val Lys Thr Glu Leu Gln Ser
        290                         295                         300
Pro Glu His Pro Leu Asp Gln His Tyr Arg Asn Leu His Cys Ala Leu
305                         310                         315                         320
Arg Pro Leu Asp His Glu Ser Tyr Glu Phe Lys Val Ile Ser Gln Tyr
                325                         330                         335
Leu Gln Ser Thr His Ala Pro Thr His Ser Asp Tyr Thr Met Thr Leu
                340                         345                         350
Leu Asp Leu Phe Glu Val Glu Lys Asp Gly Glu Lys Glu Ala Phe Arg
                355                         360                         365
Glu Asp Leu His Asn Arg Met Leu Leu Trp His Gly Ser Arg Met Ser
        370                         375                         380
Asn Trp Val Gly Ile Leu Ser His Gly Leu Arg Ile Ala Pro Pro Glu
385                         390                         395                         400
Ala Pro Ile Thr Gly Tyr Met Phe Gly Lys Gly Ile Tyr Phe Ala Asp
                405                         410                         415
Met Ser Ser Lys Ser Ala Asn Tyr Cys Phe Ala Ser Arg Leu Lys Asn
                420                         425                         430
Thr Gly Leu Leu Leu Leu Ser Glu Val Ala Leu Gly Gln Cys Asn Glu
                435                         440                         445
Leu Leu Glu Ala Asn Pro Lys Ala Glu Gly Leu Leu Gln Gly Lys His
        450                         455                         460
Ser Thr Lys Gly Leu Gly Lys Met Ala Pro Ser Ser Ala His Phe Val
465                         470                         475                         480
Thr Leu Asn Gly Ser Thr Val Pro Leu Gly Pro Ala Ser Asp Thr Gly
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4521

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                485                    490                    495
Ile Leu Asn Pro Asp Gly Tyr Thr Leu Asn Tyr Asn Glu Tyr Ile Val
                500                    505                    510
Tyr Asn Pro Asn Gln Val Arg Met Arg Tyr Leu Leu Lys Val Gln Phe
        515                    520                    525
Asn Phe Leu Gln Leu Trp              ·
        530
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<210> 5347<211> 2893
<212> DNA
<213> Homo sapiens

<400> 5347
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60
ctccttcttc gcttctcccg atccccggcg gtgccaggca cggtgccggc tgccgaggga
120
acgcctttgt gcccggtgct gggaacccgc gacggccgcc acgcgccccg gtccattgtt
180
tcgcttatct gggttccagg caggtgcggg cggcgcgcgg ggtccgcacg tgtcacccccg
240
gcggctgggg cgccgggacc cgcgggcgcc ggcaggggcg ttcccgggcg cgcggcggcg
300
atgaagcacc tgaagcggtg gtggtcggcc ggcggcggcc tcctgcacct caccctcctg
360
ctgagcttgg cggggctccg cgtagaccta gatctttacc tgctgctgcc gccgcccacc
420
ctgctgcagg acgagctgct gttcctgggc ggcccggcca gctccgccta cgcgctcagc
480
cccttctcgg cctcgggagg gtggggggcgc gcgggccact tgcaccccaa gggccgggag
540
ctggaccctg ccgcgccgcc cgagggccag ctgctccggg aggtgcgcgc gctcggggtc
600
cccttcgtcc ctcgcaccag cgtggatgca tggctggtgc acagcgtggc tgccgggagc
660
gcggacgagg cccacgggct gctcggcgcc gccgccgcct cgtccaccgg aggagccggc
720
gccagcgtgg acggcggcag ccaggctgtg caggggggct gcggggactc ccgagcggct
780
cggagtggcc ccttggacgc cggggaagag gagaaggcac ccgcggaacc gacggctcag
840
gtgccggacg ctggcggatg tgcgagcgag gagaatgggg tactaagaga aaagcacgaa
900
gctgtggatc atagttccca gcatgaggaa aatgaagaaa gggtgtcagc ccagaaggag
960
aactcacttc agcagaatga tgatgatgaa aacaaaatag cagagaaacc tgactgggag
1020
gcagaaaaga ccactgaatc tagaaatgag agacatctga atgggacaga tacttctttc
1080
tctctggaag acttattcca gttgctttca tcacagcctg aaaattcact ggagggcatc
1140
tcattgggag atattcctct tccaggcagt atcagtgatg gcatgaattc ttcagcacat
1200
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tatcatgtaa acttcagcca ggctataagt caggatgtga atcttcatga ggccatcttg
1260
ctttgtccca acaatacatt tagaagagat ccaacagcaa ggacttcaca gtcacaagaa
1320
ccatttctgc agttaaattc tcataccacc aatcctgagc aaacccttcc tggaactaat
1380
ttgacaggat ttctttcacc ggttgacaat catatgagga atctaacaag ccaagaccta
1440
ctgtatgacc ttgacataaa tatatttgat gagataaact aatgtcatt ggccacagaa
1500
gacaactttg atccaatcga tgtttctcag cttttttgatg aatcagattc tgattctggc
1560
ctttctttag attcaagtca caataatacc tctgtcatca agtctaattc ctctcactct
1620
gtgtgtgatg aaggtgctat aggttattgc actgaccatg aatctagttc ccatcatgac
1680
ttagaaggtg ctgtaggtgg ctactaccca gaacccagta agctttgtca cttggatcaa
1740
agtgattctg atttccatgg agatcttaca tttcaacacg tatttcataa ccacacttac
1800
cacttacagc caactgcacc agaatctact tctgaacctt ttccgtggcc tgggaagtca
1860
cagaagataa ggagtagata ccttgaagac acagatagaa acttgagccg tgatgaacag
1920
cgtgctaaag ctttgcatat cccttttttct gtagatgaaa ttgtcggcat gcctgttgat
1980
tctttcaata gcatgttaag tagatattat ctgacagacc tacaagtctc acttatccgt
2040
gacatcagac gaagagggaa aaataaagtt gctgcgcaga actgtcgtaa acgcaaattg
2100
gacataattt tgaatttaga agatgatgta tgtaacttgc aagcaaagaa ggaaactctt
2160
aagagagagc aagcacaatg taacaaagct attaacataa tgaaacagaa actgcatgac
2220
ctttatcatg atattttttag tagattaaga gatgaccaag gtaggccagt caatcccaac
2280
cactatgctc tccagtgtac ccatgatgga agtatcttga tagtacccaa agaactggtg
2340
gcctcaggcc acaaaaagga aacccaaaag ggaaagagaa agtgagaaga aactgaagat
2400
ggactctatt atgtgaagta gtaatgttca gaaactgatt atttggatca gaaaccattg
2460
aaactgcttc aagaattgta tctttaagta ctgctacttg ataactcag ttaacgctgt
2520
tttgaagctt acatggacaa atgtttagga cttcaagatc acacttgtgg gcaatctggg
2580
ggagccacaa cttttcatga agtgcattgt atacaaaatt catagttatg tccaaagaat
2640
aggttaacat gaaaacccag taagactttc catcttggca gccatccttt ttaagagtaa
2700
gttggttact tcaaaaagag caaacactgg ggatcaaatt attttaagag gtatttcagt
2760
tttaaatgca aaatagcctt attttcattt agtttgttag cactatagtg agcttttcaa
2820
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acactatttt aatctttata tttaacttat aaatttgct ttctatggaa ataaattttg
2880
tatttgtatt aaa
2893

<210> 5348
<211> 694
<212> PRT
<213> Homo sapiens

<400> 5348
Met Lys His Leu Lys Arg Trp Trp Ser Ala Gly Gly Gly Leu Leu His
1   5   10   15
Leu Thr Leu Leu Leu Ser Leu Ala Gly Leu Arg Val Asp Leu Asp Leu
            20   25   30
Tyr Leu Leu Leu Pro Pro Pro Thr Leu Leu Gln Asp Glu Leu Leu Phe
        35   40   45
Leu Gly Gly Pro Ala Ser Ser Ala Tyr Ala Leu Ser Pro Phe Ser Ala
    50   55   60
Ser Gly Gly Trp Gly Arg Ala Gly His Leu His Pro Lys Gly Arg Glu
65   70   75   80
Leu Asp Pro Ala Ala Pro Pro Glu Gly Gln Leu Leu Arg Glu Val Arg
                85   90   95
Ala Leu Gly Val Pro Phe Val Pro Arg Thr Ser Val Asp Ala Trp Leu
            100   105   110
Val His Ser Val Ala Ala Gly Ser Ala Asp Glu Ala His Gly Leu Leu
        115   120   125
Gly Ala Ala Ala Ala Ser Ser Thr Gly Gly Ala Gly Ala Ser Val Asp
    130   135   140
Gly Gly Ser Gln Ala Val Gln Gly Gly Cys Gly Asp Ser Arg Ala Ala
145   150   155   160
Arg Ser Gly Pro Leu Asp Ala Gly Glu Glu Lys Ala Pro Ala Glu
                165   170   175
Pro Thr Ala Gln Val Pro Asp Ala Gly Gly Cys Ala Ser Glu Glu Asn
            180   185   190
Gly Val Leu Arg Glu Lys His Glu Ala Val Asp His Ser Ser Gln His
        195   200   205
Glu Glu Asn Glu Glu Arg Val Ser Ala Gln Lys Glu Asn Ser Leu Gln
    210   215   220
Gln Asn Asp Asp Asp Glu Asn Lys Ile Ala Glu Lys Pro Asp Trp Glu
225   230   235   240
Ala Glu Lys Thr Thr Glu Ser Arg Asn Glu Arg His Leu Asn Gly Thr
                245   250   255
Asp Thr Ser Phe Ser Leu Glu Asp Leu Phe Gln Leu Leu Ser Ser Gln
            260   265   270
Pro Glu Asn Ser Leu Glu Gly Ile Ser Leu Gly Asp Ile Pro Leu Pro
        275   280   285
Gly Ser Ile Ser Asp Gly Met Asn Ser Ser Ala His Tyr His Val Asn
    290   295   300
Phe Ser Gln Ala Ile Ser Gln Asp Val Asn Leu His Glu Ala Ile Leu
305   310   315   320
Leu Cys Pro Asn Asn Thr Phe Arg Arg Asp Pro Thr Ala Arg Thr Ser
                325   330   335
Gln Ser Gln Glu Pro Phe Leu Gln Leu Asn Ser His Thr Thr Asn Pro

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                   340                   345                   350
Glu Gln Thr Leu Pro Gly Thr Asn Leu Thr Gly Phe Leu Ser Pro Val
        355                   360                   365
Asp Asn His Met Arg Asn Leu Thr Ser Gln Asp Leu Leu Tyr Asp Leu
    370                   375                   380
Asp Ile Asn Ile Phe Asp Glu Ile Asn Leu Met Ser Leu Ala Thr Glu
385                   390                   395                   400
Asp Asn Phe Asp Pro Ile Asp Val Ser Gln Leu Phe Asp Glu Ser Asp
                405                   410                   415
Ser Asp Ser Gly Leu Ser Leu Asp Ser Ser His Asn Asn Thr Ser Val
                420                   425                   430
Ile Lys Ser Asn Ser Ser His Ser Val Cys Asp Glu Gly Ala Ile Gly
        435                   440                   445
Tyr Cys Thr Asp His Glu Ser Ser Ser His His Asp Leu Glu Gly Ala
    450                   455                   460
Val Gly Gly Tyr Tyr Pro Glu Pro Ser Lys Leu Cys His Leu Asp Gln
465                   470                   475                   480
Ser Asp Ser Asp Phe His Gly Asp Leu Thr Phe Gln His Val Phe His
                485                   490                   495
Asn His Thr Tyr His Leu Gln Pro Thr Ala Pro Glu Ser Thr Ser Glu
                500                   505                   510
Pro Phe Pro Trp Pro Gly Lys Ser Gln Lys Ile Arg Ser Arg Tyr Leu
        515                   520                   525
Glu Asp Thr Asp Arg Asn Leu Ser Arg Asp Glu Gln Arg Ala Lys Ala
    530                   535                   540
Leu His Ile Pro Phe Ser Val Asp Glu Ile Val Gly Met Pro Val Asp
545                   550                   555                   560
Ser Phe Asn Ser Met Leu Ser Arg Tyr Tyr Leu Thr Asp Leu Gln Val
                565                   570                   575Leu Ile Arg
Asp Ile Arg Arg Arg Gly Lys Asn Lys Val Ala Ala
        580                   585                   590
Gln Asn Cys Arg Lys Arg Lys Leu Asp Ile Ile Leu Asn Leu Glu Asp
        595                   600                   605
Asp Val Cys Asn Leu Gln Ala Lys Lys Glu Thr Leu Lys Arg Glu Gln
    610                   615                   620
Ala Gln Cys Asn Lys Ala Ile Asn Ile Met Lys Gln Lys Leu His Asp
625                   630                   635                   640
Leu Tyr His Asp Ile Phe Ser Arg Leu Arg Asp Asp Gln Gly Arg Pro
                645                   650                   655
Val Asn Pro Asn His Tyr Ala Leu Gln Cys Thr His Asp Gly Ser Ile
                660                   665                   670
Leu Ile Val Pro Lys Glu Leu Val Ala Ser Gly His Lys Lys Glu Thr
        675                   680                   685
Gln Lys Gly Lys Arg Lys
    690
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<210> 5349
<211> 425
<212> DNA
<213> Homo sapiens

<400> 5349
gtgcacgaag ttccaatggg cttatgggag ggctaggtct ccacttcttt gtacctacac
60

acagttctca ggtcactgca tgtcactcct caccactgcc ctgtggttgc caggacaact
120
tgggcaaaca ccacaccagc agggagcccc aagcccagcc caagccccac aaagtctcca
180
gccaggaagg ggaaggcagg ataccactgc ctgggaaggc ggaagtgaga gaggcaggcc
240
aacccattcc tgtttctctt ctacttcttt ctccaaagaa agccctcact ctcctcgcta
300
cagcccaggg aggtcacgag gggctgggaa gactcctgtg gcaaagtggc ccactccagc
360
ccaggcctga gaaaaaaagg accccgaaat ccttctggct accagtatct tctgccttca
420
cgcgt
425

<210> 5350
<211> 134
<212> PRT
<213> Homo sapiens

<400> 5350
Met Gly Gly Leu Gly Leu His Phe Phe Val Pro Thr His Ser Ser Gln
 1   5   10   15
Val Thr Ala Cys His Ser Ser Pro Leu Pro Cys Gly Cys Gln Asp Asn
              20   25   30
Leu Gly Lys His His Thr Ser Arg Glu Pro Gln Ala Gln Pro Lys Pro
           35   40   45
His Lys Val Ser Ser Gln Glu Gly Glu Gly Arg Ile Pro Leu Pro Gly
        50   55   60
Lys Ala Glu Val Arg Glu Ala Gly Gln Pro Ile Pro Val Ser Leu Leu
65   70   75   80
Leu Leu Ser Pro Lys Lys Ala Leu Thr Leu Leu Ala Thr Ala Gln Gly
              85   90   95
Gly His Glu Gly Leu Gly Arg Leu Leu Trp Gln Ser Gly Pro Leu Gln
           100   105   110
Pro Arg Pro Glu Lys Lys Arg Thr Pro Lys Ser Phe Trp Leu Pro Val
        115   120   125
Ser Ser Ala Phe Thr Arg
     130

<210> 5351
<211> 343
<212> DNA
<213> Homo sapiens

<400> 5351
gtgcacagtc agctcgacta gggtgtcata ggccgcgctg cactgtcggc atcggaatct
60
gctggcccct gtgaacacag tcccgcacat cttgctgctc tgtcggtaca actgcaccga
120
gctgaacagg ctgggtttcg agacggaccg agaaggcaag ttctgctgca ggcttttgga
180
cagagcgtct tggtgccaat caaaatcact cttgttgctg ccgtttcggg tgtcacagtt
240

4526

cctcctctca ctattggaca gcttgaagcc aaggcccagg cctgaccagt aggaatccga
300
caggatgttg gcgtagacag cggtcatttt atccatgcaa ttg
343

<210> 5352
<211> 112
<212> PRT
<213> Homo sapiens

<400> 5352
Met Asp Lys Met Thr Ala Val Tyr Ala Asn Ile Leu Ser Asp Ser Tyr
 1   5   10   15
Trp Ser Gly Leu Gly Leu Gly Phe Lys Leu Ser Asn Ser Glu Arg Arg
            20   25   30
Asn Cys Asp Thr Arg Asn Gly Ser Asn Lys Ser Asp Phe Asp Trp His
        35   40   45
Gln Asp Ala Leu Ser Lys Ser Leu Gln Gln Asn Leu Pro Ser Arg Ser
     50   55   60
Val Ser Lys Pro Ser Leu Phe Ser Ser Val Gln Leu Tyr Arg Gln Ser
65   70   75   80
Ser Lys Met Cys Gly Thr Val Phe Thr Gly Ala Ser Arg Phe Arg Cys
            85   90   95
Arg Gln Cys Ser Ala Ala Tyr Asp Thr Leu Val Glu Leu Thr Val His
            100   105   110

<210> 5353
<211> 4217<212> DNA
<213> Homo sapiens

<400> 5353
tttttttttt ttgaaatgta agtatacaga ttttaattta tttttaagaa taattgtata
60
ttttaaaaac aggacacgta ctgtatgagt aaacagcgtg gctaacacca agtccacact
120
ggtaagcttt tgagaaccat ttacactatg ttgacagtag tactgctgca ggcagacagc
180
ggaagaataa ataatagtgc ttcaagaaga gtagtgattg agaggatagg taaagagggc
240
gcctcatcgt ggaagctaga gcaggaacac ctccccagta gtgacatgtg caaagttcca
300
aatctccacg acaaagacag ctcaacccac tggaacaaac agactcccaa tgtggctggc
360
aactgcgggg gtagaagaac tcaggcaaag taggcacagg aatgggggag atgagagcca
420
agggacaaac gccgagaaag cgttccgaca agcatgtgtg ttcatacatg cataccccca
480
acaaagggca atgcactgtg taacagaact gaacacaatt taacaaagct gctcccagcc
540
ttcctgtcac ctctttggca gtagggcagg ccatctcaac ttcggacaca caaagacatt
600
ctcttcagga ggaaggctgt cctgtgtggt ggggacaagg cttcaggtaa gagcaaagct
660

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2100
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2160
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2280
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2400
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2460
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2580
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2640
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2700
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2760
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2820
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2880
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2940
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3000
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3060
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3660
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3720
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3780
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3900
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4080
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4200
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4217


<210> 5354
<211> 605
<212> PRT
<213> Homo sapiens

<400> 5354
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Val His Glu Lys Lys Leu Gly Asp Lys Val Ala Phe Tyr Trp Glu Gly
            20                  25                  30
Asn Glu Pro Gly Glu Thr Thr Gln Ile Thr Tyr His Gln Leu Leu Val
        35                  40                  45
Gln Val Cys Gln Phe Ser Asn Val Leu Arg Lys Gln Gly Ile Gln Lys
    50                  55                  60
Gly Asp Arg Val Ala Ile Tyr Met Pro Met Ile Pro Glu Leu Val Val
65                  70                  75                  80
Ala Met Leu Ala Cys Ala Arg Ile Gly Ala Leu His Ser Ile Val Phe
                85                  90                  95
Ala Gly Phe Ser Ser Glu Ser Leu Cys Glu Arg Ile Leu Asp Ser Ser
            100                 105                 110
Cys Ser Leu Leu Ile Thr Thr Asp Ala Phe Tyr Arg Gly Glu Lys Leu
        115                 120                 125
Val Asn Leu Lys Glu Leu Ala Asp Glu Ala Leu Gln Lys Cys Gln Glu
    130                 135                 140
Lys Gly Phe Pro Val Arg Cys Cys Ile Val Val Lys His Leu Gly Arg
145                 150                 155                 160
Ala Glu Leu Gly Met Gly Thr Pro Pro Ala Ser Pro Pro Gln Leu Arg
                165                 170                 175
Gly His Ala Asp Val Gln Ile Ser Trp Asn Gln Gly Ile Asp Leu Trp
            180                 185                 190
Trp His Glu Leu Met Gln Glu Ala Gly Asp Glu Cys Glu Pro Glu Trp
        195                 200                 205
Cys Asp Ala Glu Asp Pro Leu Phe Ile Leu Tyr Thr Ser Gly Ser Thr
    210                 215                 220
Gly Lys Pro Lys Gly Val Val His Thr Val Gly Gly Tyr Met Leu Tyr
225                 230                 235                 240
Val Ala Thr Thr Phe Lys Tyr Val Phe Asp Phe His Ala Glu Asp Val
                245                 250                 255
Phe Trp Cys Thr Ala Asp Ile Gly Trp Ile Thr Gly His Ser Tyr Val
            260                 265                 270
Thr Tyr Gly Pro Leu Ala Asn Gly Ala Thr Ser Val Leu Phe Glu Gly
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          275                   280                   285
Ile Pro Thr Tyr Pro Asp Val Asn Arg Leu Trp Ser Ile Val Asp Lys
    290                   295                   300
Tyr Lys Val Thr Lys Phe Tyr Thr Ala Pro Thr Ala Ile Arg Leu Leu
305                   310                   315                   320
Met Lys Phe Gly Asp Glu Pro Val Thr Lys His Ser Arg Ala Ser Leu
                325                   330                   335
Gln Val Leu Gly Thr Val Gly Glu Pro Ile Asn Pro Glu Ala Trp Leu
                340                   345                   350
Trp Tyr His Arg Val Val Gly Ala Gln Arg Cys Pro Ile Val Asp Thr
            355                   360                   365
Phe Trp Gln Thr Glu Thr Gly Gly His Met Leu Thr Pro Leu Pro Val
    370                   375                   380
Pro Thr Pro Met Lys Pro Gly Ser Ala Thr Phe Pro Phe Phe Gly Val
385                   390                   395                   400
Ala Pro Ala Ile Leu Asn Glu Ser Gly Glu Glu Leu Glu Gly Glu Ala
                405                   410                   415
Glu Gly Tyr Leu Val Phe Lys Gln Pro Trp Pro Gly Ile Met Arg Thr
            420                   425                   430
Val Tyr Gly Asn His Glu Arg Phe Glu Thr Thr Tyr Ser Lys Lys Phe
            435                   440                   445
Pro Gly Tyr Tyr Val Thr Gly Asp Gly Cys Gln Arg Asp Gln Asp Gly
    450                   455                   460
Tyr Tyr Trp Ile Thr Gly Arg Ile Asp Asp Met Leu Asn Val Ser Gly
465                   470                   475                   480
His Leu Leu Ser Thr Ala Glu Val Glu Ser Ala Leu Val Glu His Glu
                485                   490                   495
Ala Val Ala Glu Ala Ala Val Val Gly His Pro His Pro Val Lys Gly
            500                   505                   510
Glu Cys Leu Tyr Cys Phe Val Thr Leu Cys Asp Gly His Thr Phe Ser
            515                   520                   525
Pro Lys Leu Thr Glu Glu Leu Lys Lys Gln Ile Arg Glu Lys Ile Gly
            530                   535                   540
Pro Ile Ala Thr Pro Asp Tyr Ile Gln Asn Ala Pro Gly Leu Pro Lys
545                   550                   555                   560
Thr Arg Ser Gly Lys Ile Met Arg Arg Val Leu Arg Lys Ile Ala Gln
                565                   570                   575
Asn Asp His Asp Leu Gly Asp Met Ser Thr Val Ala Asp Pro Ser Val
            580                   585                   590
Ile Ser His Leu Phe Ser His Arg Cys Leu Thr Ile Gln
            595                   600                   605
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<210> 5355
<211> 1596
<212> DNA
<213> Homo sapiens

<400> 5355
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gatgaggtgt accaggacaa cgtgtactct ccagattgca gattccactc cttcaagaag
120
gtgctgtacg agatggggcc cgagtactcg agtaatgtgg agcttgcctc cttccactcc
180

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acctccaagg gctacatggg cgaatgcggc tacagaggag gctacatgga ggtggtcaat
240
ttgcaccccg agatcaaggg ccagctggtg aagctgctgt cggtgcgcct gtgccccca
300
gtgtctgggc aggccgcgat ggacattgtt gtgaaccccc cggtggcagg agaggagtcc
360
tttgagcaat tcagccgaga gaaggagtcg gtcctgggta atctggccaa aaaagcaaag
420
ctgacggaag acctgtttaa ccaagtccca ggaattcact gcaacccctt gcaggggcc
480
atgtacgcct tccctcggat cttcattcct gccaaagctg tggaggctgc tcaggcccat
540
caaatggctc cagacatgtt ctactgcatg aagctcctgg aggagactgg catctgtgtc
600
gtgcccggca gtggctttgg gcagagggaa ggcacttacc acttcaggat gactatcctc
660
cctccagtgg agaagctgaa aacggtgctg cagaaggtga agacttcca catcaactc
720
ctggagaagt acgcgtgagg acgcctgagc cccagcggga gacctgtcct tggctcttcc
780
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840
gccgctggtc acttcgtcat cattttgccc ctggagacgt ctttctttgt gccttgatgt
900
tgagagcgcc tctcttttga gcaaacaagc attctatatg caaccagagt agaggggacc
960
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1020
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1080
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1260
gagcgcagta gcacgtggac tgggcaggat gttgcactag cttggggtag atgctggggg
1320
ctgcggccac ggtcagaggg ccccactgtg aggcgtgggt gtgagccagg ctgcaggagg
1380
aactgggcct ccgcttccca gcaacgcagc caggcctgag aattctgtgc gcccggcggg
1440
ctttgggaat gaggggttcc cttgaacatg cgtaggctgg aaccccgtct gagaggtctc
1500
cctgaatttc agtgacacat agtgcagccc ggcagtgtcc cacttccgtg gagagagccg
1560
ctggaatggt gtggacccat cccgcgggtg accggt
1596


<210> 5356
<211> 245
<212> PRT
<213> Homo sapiens
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<400> 5356
Arg Lys Cys Ile Glu Asp Val Ile His Phe Ala Trp Glu Glu Lys Leu
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Phe Leu Leu Ala Asp Glu Val Tyr Gln Asp Asn Val Tyr Ser Pro Asp
                20   25   30
Cys Arg Phe His Ser Phe Lys Lys Val Leu Tyr Glu Met Gly Pro Glu
            35   40   45
Tyr Ser Ser Asn Val Glu Leu Ala Ser Phe His Ser Thr Ser Lys Gly
        50   55   60
Tyr Met Gly Glu Cys Gly Tyr Arg Gly Gly Tyr Met Glu Val Val Asn
65   70   75   80
Leu His Pro Glu Ile Lys Gly Gln Leu Val Lys Leu Leu Ser Val Arg
                85   90   95
Leu Cys Pro Pro Val Ser Gly Gln Ala Ala Met Asp Ile Val Val Asn
            100   105   110
Pro Pro Val Ala Gly Glu Glu Ser Phe Glu Gln Phe Ser Arg Glu Lys
        115   120   125
Glu Ser Val Leu Gly Asn Leu Ala Lys Lys Ala Lys Leu Thr Glu Asp
    130   135   140
Leu Phe Asn Gln Val Pro Gly Ile His Cys Asn Pro Leu Gln Gly Ala
145   150   155   160
Met Tyr Ala Phe Pro Arg Ile Phe Ile Pro Ala Lys Ala Val Glu Ala
                165   170   175
Ala Gln Ala His Gln Met Ala Pro Asp Met Phe Tyr Cys Met Lys Leu
                180   185   190
Leu Glu Glu Thr Gly Ile Cys Val Val Pro Gly Ser Gly Phe Gly Gln
            195   200   205
Arg Glu Gly Thr Tyr His Phe Arg Met Thr Ile Leu Pro Pro Val Glu
    210   215   220
Lys Leu Lys Thr Val Leu Gln Lys Val Lys Asp Phe His Ile Asn Phe
225   230   235   240
Leu Glu Lys Tyr Ala
                245

<210> 5357
<211> 1722
<212> DNA
<213> Homo sapiens

<400> 5357
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120
gtgggctcct acttggttcg gaggtcccgc cggcctcagg tcactctcct ggaccccaat
180
gaaaagtacc tgctacgact gctagacaag acgactgtga gccacaacac caagaggttc
240
cgctttgccc tgcccaccgc ccaccacact ctggggctgc ctgtgggcaa acatatctac
300
ctctccaccc gaattgatgg cagcctggtc atcaggccat acactcctgt caccagtgat
360
gaggatcaag gctatgtgga tcttgtcatc aaggtctacc tgaagggtgt gcaccccaaa
420

tttcctgagg gagggaagat gtctcagtac ctggatagcc tgaaggttgg ggatgtggtg
480
gagtttcggg ggccaagcgg gttgctcact tacactggaa aagggcattt taacattcag
540
cccaacaaga aatctccacc agaaccccga gtggcgaaga aactgggaat gattgccggc
600
gggacaggaa tcaccccaat gctacagctg atccgggcca tcctgaaagt ccctgaagat
660
ccaacccagt gctttctgct ttttgccaac cagacagaaa aggatatcat cttgcgggag
720
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780
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840
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960
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1020
aagcactata agccttagat tcctttcctc agagtttcag gttttttcag ttacatctag
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1320
cagtctgtgc aatgggtttt acttaaactt cactgttcaa cctatgagca aatctgtatg
1380
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1440
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1560
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1680
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1722

<210> 5358
<211> 321
<212> PRT
<213> Homo sapiens

<400> 5358
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Met Gly Ile Gln Thr Ser Pro Val Leu Leu Ala Ser Leu Gly Val Gly

4534

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                20                    25                    30
Leu Val Thr Leu Leu Gly Leu Ala Val Gly Ser Tyr Leu Val Arg Arg
        35                    40                    45
Ser Arg Arg Pro Gln Val Thr Leu Leu Asp Pro Asn Glu Lys Tyr Leu
    50                    55                    60
Leu Arg Leu Leu Asp Lys Thr Thr Val Ser His Asn Thr Lys Arg Phe
65                    70                    75                    80
Arg Phe Ala Leu Pro Thr Ala His His Thr Leu Gly Leu Pro Val Gly
                85                    90                    95
Lys His Ile Tyr Leu Ser Thr Arg Ile Asp Gly Ser Leu Val Ile Arg
            100                   105                   110
Pro Tyr Thr Pro Val Thr Ser Asp Glu Asp Gln Gly Tyr Val Asp Leu
        115                   120                   125
Val Ile Lys Val Tyr Leu Lys Gly Val His Pro Lys Phe Pro Glu Gly
    130                   135                   140
Gly Lys Met Ser Gln Tyr Leu Asp Ser Leu Lys Val Gly Asp Val Val
145                   150                   155                   160
Glu Phe Arg Gly Pro Ser Gly Leu Leu Thr Tyr Thr Gly Lys Gly His
                165                   170                   175
Phe Asn Ile Gln Pro Asn Lys Lys Ser Pro Pro Glu Pro Arg Val Ala
            180                   185                   190
Lys Lys Leu Gly Met Ile Ala Gly Gly Thr Gly Ile Thr Pro Met Leu
        195                   200                   205
Gln Leu Ile Arg Ala Ile Leu Lys Val Pro Glu Asp Pro Thr Gln Cys
    210                   215                   220
Phe Leu Leu Phe Ala Asn Gln Thr Glu Lys Asp Ile Ile Leu Arg Glu
225                   230                   235                   240
Asp Leu Glu Glu Leu Gln Ala Arg Tyr Pro Asn Arg Phe Lys Leu Trp
                245                   250                   255
Phe Thr Leu Asp His Pro Pro Lys Asp Trp Ala Tyr Ser Lys Gly Phe
            260                   265                   270
Val Thr Ala Asp Met Ile Arg Glu His Leu Pro Ala Pro Gly Asp Asp
        275                   280                   285
Val Leu Val Leu Leu Cys Gly Pro Pro Pro Met Val Gln Leu Ala Cys
    290                   295                   300
His Pro Asn Leu Asp Lys Leu Gly Tyr Ser Gln Lys Met Arg Phe Thr
305                   310                   315                   320
Tyr
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<210> 5359
<211> 5003
<212> DNA
<213> Homo sapiens

<400> 5359
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120
gaagtctaca gcagctgcga caccacgggg actggctttc tggaccgcca ggagctgacc
180
cagctctgcc ttaagcttca cctggagcag cagctgcccg tcctcctgca gacgcttctc
240
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ggaaacgacc atttcgccag ggttaacttt gaggaattta aggaaggttt tgtggctgtg
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ttgtcttcaa atgctggtgt tcgcccctca gatgaagaca gtagttcttt ggaatcagct
360
gcctccagtg ccatccctcc aaagtatgtg aatggttcta agtggtatgg ccgtcggagc
420
cggcctgagc tatgtgacgc tgccacagaa gccagacgcg tgccggagca gcaaacccag
480
gccagcctga aaagtcacct ctggcgctca gcgtctctgg agagcgtgga gagtcccaag
540
tcagatgaag aggccgagag cactaaagaa gctcagaatg aattatttga agcacaagga
600
cagctgcaga cctgggattc tgaggacttt gggagccccc agaagtcctg cagcccctcc
660
tttgacaccc agagagcca gatccggggc gtgtgggaag agctgggggt gggcagcagc
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780
gagaaagagg aactcgaaga cctgtttaac aaactggatc aagacggaga cggcaaagtg
840
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1020
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1080
gaggggattc agaatggcag ggagatcttg cagagcctgg acttcagcgt ggacgagaag
1140
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1260
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1380
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1680
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1800
ggcctgtggg cgcggctgcc caagaaccgg cacagcccct catggagccc ggatgggcgc
1860
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agacggcagc tccctggact cggcccagca ggcatttcat tcctgggtaa ttctgctcca
1920
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1980
acccagctgg agaccaaggt aaattactac gaaagggaaa ttgcggcact gaaaaggaac
2040
tttgagaagg agaggaagga catggagcag gctcgcaggc gcgaggtcag cgtgctggag
2100
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5003
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<210> 5360

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<211> 1406
<212> PRT
<213> Homo sapiens

<400> 5360
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            20                  25                  30
Val Ser Gln Leu Arg Glu Val Tyr Ser Ser Cys Asp Thr Thr Gly Thr
        35                  40                  45
Gly Phe Leu Asp Arg Gln Glu Leu Thr Gln Leu Cys Leu Lys Leu His
    50                  55                  60
Leu Glu Gln Gln Leu Pro Val Leu Leu Gln Thr Leu Leu Gly Asn Asp
65                  70                  75                  80
His Phe Ala Arg Val Asn Phe Glu Glu Phe Lys Glu Gly Phe Val Ala
                85                  90                  95
Val Leu Ser Ser Asn Ala Gly Val Arg Pro Ser Asp Glu Asp Ser Ser
            100                 105                 110
Ser Leu Glu Ser Ala Ala Ser Ser Ala Ile Pro Pro Lys Tyr Val Asn
        115                 120                 125
Gly Ser Lys Trp Tyr Gly Arg Arg Ser Arg Pro Glu Leu Cys Asp Ala
    130                 135                 140
Ala Thr Glu Ala Arg Arg Val Pro Glu Gln Gln Thr Gln Ala Ser Leu
145                 150                 155                 160
Lys Ser His Leu Trp Arg Ser Ala Ser Leu Glu Ser Val Glu Ser Pro
                165                 170                 175
Lys Ser Asp Glu Glu Ala Glu Ser Thr Lys Glu Ala Gln Asn Glu Leu
                180                 185                 190
Phe Glu Ala Gln Gly Gln Leu Gln Thr Trp Asp Ser Glu Asp Phe Gly
        195                 200                 205
Ser Pro Gln Lys Ser Cys Ser Pro Ser Phe Asp Thr Pro Glu Ser Gln
    210                 215                 220
Ile Arg Gly Val Trp Glu Glu Leu Gly Val Gly Ser Ser Gly His Leu
225                 230                 235                 240
Ser Glu Gln Glu Leu Ala Val Val Cys Gln Ser Val Gly Leu Gln Gly
                245                 250                 255
Leu Glu Lys Glu Glu Leu Glu Asp Leu Phe Asn Lys Leu Asp Gln Asp
            260                 265                 270
Gly Asp Gly Lys Val Ser Leu Glu Glu Phe Gln Leu Gly Leu Phe Ser
    275                 280                 285
His Glu Pro Ala Leu Leu Leu Glu Ser Ser Thr Arg Val Lys Pro Ser
    290                 295                 300
Lys Ala Trp Ser His Tyr Gln Val Pro Glu Glu Ser Gly Cys His Thr
305                 310                 315                 320
Thr Thr Thr Ser Ser Leu Val Ser Leu Cys Ser Ser Leu Arg Leu Phe
                325                 330                 335
Ser Ser Ile Asp Asp Gly Ser Gly Phe Ala Phe Pro Asp Gln Val Leu
            340                 345                 350
Ala Met Trp Thr Gln Glu Gly Ile Gln Asn Gly Arg Glu Ile Leu Gln
        355                 360                 365
Ser Leu Asp Phe Ser Val Asp Glu Lys Val Asn Leu Leu Glu Leu Thr
    370                 375                 380
Trp Ala Leu Asp Asn Glu Leu Met Thr Val Asp Ser Ala Val Gln Gln
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385                      390                      395                      400
Ala Ala Leu Ala Cys Tyr His Gln Glu Leu Ser Tyr Gln Gln Gly Gln
                405                      410                      415
Val Glu Gln Leu Ala Arg Glu Arg Asp Lys Ala Arg Gln Asp Leu Glu
                420                      425                      430
Arg Ala Glu Lys Arg Asn Leu Glu Phe Val Lys Glu Met Asp Asp Cys
                435                      440                      445
His Ser Thr Leu Glu Gln Leu Thr Glu Lys Lys Ile Lys His Leu Glu
        450                      455                      460
Gln Gly Tyr Arg Glu Arg Leu Ser Leu Leu Arg Ser Glu Val Glu Ala
465                      470                      475                      480
Glu Arg Glu Leu Phe Trp Glu Gln Ala His Arg Gln Arg Ala Ala Leu
                485                      490                      495
Glu Trp Asp Val Gly Arg Leu Gln Ala Glu Glu Ala Gly Leu Arg Glu
                500                      505                      510
Lys Leu Thr Leu Ala Leu Lys Glu Asn Ser Arg Leu Gln Lys Glu Ile
        515                      520                      525
Val Glu Val Val Glu Lys Leu Ser Asp Ser Glu Arg Leu Ala Leu Lys
        530                      535                      540
Leu Gln Lys Asp Leu Glu Phe Val Leu Lys Asp Lys Leu Glu Pro Gln
545                      550                      555                      560
Ser Ala Glu Leu Leu Ala Gln Glu Glu Arg Phe Ala Ala Val Leu Lys
                565                      570                      575
Glu Tyr Glu Leu Lys Cys Arg Asp Leu Gln Asp Arg Asn Asp Glu Leu
                580                      585                      590
Gln Ala Glu Leu Glu Gly Leu Trp Ala Arg Leu Pro Lys Asn Arg His
        595                      600                      605
Ser Pro Ser Trp Ser Pro Asp Gly Arg Arg Arg Gln Leu Pro Gly Leu
        610                      615                      620
Gly Pro Ala Gly Ile Ser Phe Leu Gly Asn Ser Ala Pro Val Ser Ile
625                      630                      635                      640
Glu Thr Glu Leu Met Met Glu Gln Val Lys Glu His Tyr Gln Asp Leu
                645                      650                      655
Arg Thr Gln Leu Glu Thr Lys Val Asn Tyr Tyr Glu Arg Glu Ile Ala
                660                      665                      670
Ala Leu Lys Arg Asn Phe Glu Lys Glu Arg Lys Asp Met Glu Gln Ala
        675                      680                      685
Arg Arg Arg Glu Val Ser Val Leu Glu Gly Gln Lys Ala Asp Leu Glu
        690                      695                      700
Glu Leu His Glu Lys Ser Gln Glu Val Ile Trp Gly Leu Gln Glu Gln
705                      710                      715            .        720
Leu Gln Asp Thr Ala Arg Gly Pro Glu Pro Glu Gln Met Gly Leu Ala
                725                      730                      735
Pro Cys Cys Thr Gln Ala Leu Cys Gly Leu Ala Leu Arg His His Ser
                740                      745                      750
His Leu Gln Gln Ile Arg Arg Glu Ala Glu Ala Glu Leu Ser Gly Glu
        755                      760                      765
Leu Ser Gly Leu Gly Ala Leu Pro Ala Arg Arg Asp Leu Thr Leu Glu
        770                      775                      780
Leu Glu Glu Pro Pro Gln Gly Pro Leu Pro Arg Gly Ser Gln Arg Ser
785                      790                      795                      800
Glu Gln Leu Glu Leu Glu Arg Ala Leu Lys Leu Gln Pro Cys Ala Ser
                805                      810                      815
Glu Lys Arg Ala Gln Met Cys Val Ser Leu Ala Leu Glu Glu Glu Glu
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            820                  825                  830
Leu Glu Leu Ala Arg Gly Lys Arg Val Asp Gly Pro Ser Leu Glu Ala
        835                  840                  845
Glu Met Gln Ala Leu Pro Lys Asp Gly Leu Val Ala Gly Ser Gly Gln
    850                  855                  860
Glu Gly Thr Arg Gly Leu Leu Pro Leu Arg Pro Gly Cys Gly Glu Arg
865                  870                  875                  880
Pro Leu Ala Trp Leu Ala Pro Gly Asp Gly Arg Glu Ser Glu Glu Ala
            885                  890                  895
Ala Gly Ala Gly Pro Arg Arg Arg Gln Ala Gln Asp Thr Glu Ala Thr
        900                  905                  910
Gln Ser Pro Ala Pro Ala Pro Ala Pro Ala Ser His Gly Pro Ser Glu
    915                  920                  925
Arg Trp Ser Arg Met Gln Pro Cys Gly Val Asp Gly Asp Ile Val Pro
    930                  935                  940
Lys Glu Pro Glu Pro Phe Gly Ala Ser Ala Ala Gly Leu Glu Gln Pro
945                  950                  955                  960
Gly Ala Arg Glu Leu Pro Leu Leu Gly Thr Glu Arg Asp Ala Ser Gln
            965                  970                  975
Thr Gln Pro Arg Met Trp Glu Pro Pro Leu Arg Pro Ala Ala Ser Cys
            980                  985                  990
Arg Gly Gln Ala Glu Arg Leu Gln Ala Ile Gln Glu Glu Arg Ala Arg
    995                  1000                 1005
Ser Trp Ser Arg Gly Thr Gln Glu Gln Ala Ser Glu Gln Gln Ala Arg
    1010                 1015                 1020
Ala Glu Gly Ala Leu Glu Pro Gly Cys His Lys His Ser Val Glu Val
1025                 1030                 1035                 1040
Ala Arg Arg Gly Ser Leu Pro Ser His Leu Gln Leu Ala Asp Pro Gln
            1045                 1050                 1055
Gly Ser Trp Gln Glu Gln Leu Ala Ala Pro Glu Glu Gly Glu Thr Lys
            1060                 1065                 1070
Ile Ala Leu Glu Arg Glu Lys Asp Asp Met Glu Thr Lys Leu Leu His
        1075                 1080                 1085
Leu Glu Asp Val Val Arg Ala Leu Glu Lys His Val Asp Leu Arg Glu
    1090                 1095                 1100
Asn Asp Arg Leu Glu Phe His Arg Leu Ser Glu Glu Asn Thr Leu Leu
1105                 1110                 1115                 1120
Lys Asn Asp Leu Gly Arg Val Arg Gln Glu Leu Glu Ala Ala Glu Ser
            1125                 1130                 1135
Thr His Asp Ala Gln Arg Lys Glu Ile Glu Val Leu Lys Lys Asp Lys
        1140                 1145                 1150
Glu Lys Ala Cys Ser Glu Met Glu Val Leu Asn Arg Gln Asn Gln Asn
        1155                 1160                 1165
Tyr Lys Asp Gln Leu Ser Gln Leu Asn Val Arg Val Leu Gln Leu Gly
    1170                 1175                 1180
Gln Glu Ala Ser Thr His Gln Ala Gln Asn Glu Glu His Arg Val Thr
1185                 1190                 1195                 1200
Ile Gln Met Leu Thr Gln Ser Leu Glu Glu Val Val Arg Ser Gly Gln
            1205                 1210                 1215
Gln Gln Ser Asp Gln Ile Gln Lys Leu Arg Val Glu Leu Glu Cys Leu
            1220                 1225                 1230
Asn Gln Glu His Gln Ser Leu Gln Leu Pro Trp Ser Glu Leu Thr Gln
        1235                 1240                 1245
Thr Leu Glu Glu Ser Gln Asp Gln Val Gln Gly Ala His Leu Arg Leu
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                  1250                 1255                    1260
Arg Gln Ala Gln Ala Gln His Leu Gln Glu Val Arg Leu Val Pro Gln
1265                 1270                    1275                    1280
Asp Arg Val Ala Glu Leu His Arg Leu Leu Ser Leu Gln Gly Glu Gln
                  1285                    1290                    1295
Ala Arg Arg Arg Leu Asp Ala Gln Arg Glu Glu His Glu Lys Gln Leu
                  1300                    1305                    1310
Lys Ala Thr Glu Glu Arg Val Glu Glu Ala Glu Met Ile Leu Lys Asn
             1315                    1320                    1325
Met Glu Met Leu Leu Gln Glu Lys Val Asp Lys Leu Lys Glu Gln Phe
             1330                    1335                    1340
Glu Lys Asn Thr Lys Ser Asp Leu Leu Leu Lys Glu Leu Tyr Val Glu
1345                 1350                    1355                    1360
Asn Ala His Leu Val Arg Ala Leu Gln Ala Thr Glu Glu Lys Gln Arg
                  1365                    1370                    1375
Gly Ala Glu Lys Gln Ser Arg Leu Leu Glu Glu Lys Val Arg Ala Leu
                  1380                    1385                    1390
Asn Lys Leu Val Ser Arg Ile Ala Pro Ala Ala Leu Ser Val
                  1395                    1400                    1405
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<210> 5361
<211> 1080
<212> DNA
<213> Homo sapiens

<400> 5361
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180
catccacaag gccagcagct gccaacagct gccctagacc tatcaacaag acaacttcat
240
ggctcccaat gggaatggag gctgggcccg ccctacttag agcaggggaa agaacttttc
300
cctcaaagag ccggggcagg atgccagaat ctaactacat cctctcccgg tttgcagttc
360
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420
ctcaagttcc taaacagagt aagtgccagt tgatgtccca ccgtggatcc tttactccag
480
aaaaattgta atgatggctc ggccaccgcc ttggctagag tcccactgca cgcgtgtcgt
540
gagggccgat gggcaagtcc gtccggtttt ttttgttgtt gttgttgttt tttgagatgg
600
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720
caccgccag cacgcccagc ttttttttgt attttagta gagacggggt tttatcatgt
780
tggccaggct ggtctcgaac gcctgacctc atgnnatcca cccgccttgg cctcccaaat
840
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tgctgggacc acaggcgtga gccaccgcgc ccggccgtct gtctggtttt caaaccaatc
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960
tctagaaata agtcatattt ctgagttgat aaaatgcttt tctgaacata cattttaggt
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1080

<210> 5362
<211> 165
<212> PRT
<213> Homo sapiens

<400> 5362
Cys Pro Thr Val Asp Pro Leu Leu Gln Lys Asn Cys Asn Asp Gly Ser
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Ala Thr Ala Leu Ala Arg Val Pro Leu His Ala Cys Arg Glu Gly Arg
            20   25   30
Trp Ala Ser Pro Ser Gly Phe Phe Cys Cys Cys Cys Cys Phe Leu Arg
            35   40   45
Trp Ser Leu Ala Leu Xaa Ala Gln Thr Glu Val Gln Arg Pro Asp Leu
     50   55   60
Asn Ser Leu Gln Pro Pro Pro Pro Gly Phe Lys Gly Phe Ser Cys Leu
65   70   75   80
Ser Leu Leu Ser Ser Trp Asp Tyr Arg His Pro Pro Ala Arg Pro Ala
                85   90   95
Phe Phe Cys Ile Phe Ser Arg Asp Gly Val Leu Ser Cys Trp Pro Gly
            100   105   110
Trp Ser Arg Thr Pro Asp Leu Met Xaa Ser Thr Arg Leu Gly Leu Pro
            115   120   125
Asn Cys Trp Asp His Arg Arg Glu Pro Pro Arg Pro Ala Val Cys Leu
            130   135   140
Val Phe Lys Pro Ile Asn Glu Pro Val Ser Leu Phe Gly Ile Tyr Asn
145   150   155   160
Asn Glu Lys Ile His
                165

<210> 5363
<211> 894
<212> DNA
<213> Homo sapiens

<400> 5363
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120
cggcgttgca ccggctctgt gagcacctcc cctctgagca cttcccttgt gacaggccac
180
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240
ggcggagaac cgcctgggcg atgagtgaga acctcgacaa cgagggcccg aagcccatgg
300

agagctgtgg ccaggagagc agcagtgccc tgagctgccc taccgtctcg gtgcccctg
360

cagccccggc agccctggag gaggtggaga aagagggcgc tggggcggct acagggcncg
420

gggcctcagc ccgggctcta cagctacatc agggatgact tgtttacctc tgagatcttt
480

aaactggagc tgcagaacgc gcctcgccac gccagcttca gcgacgtccg gcgcttcctg
540

ggccgctttg gtctgcagcc ccacaaaacc aaactctttg ggcaaccacc ctgcgccttt
600

gtgacattcc gcagcgctgc agagagggac aaggccctgc gcgttttgca tggtgccctc
660

tggaaaggcc gcccactcag tgtggcctgg cccggcccaa ggccgacccc atggccagga
720

ggaggcngac aggagggtga gagtgagcca ccagtaacac gangtggccg acgtggtgac
780

ccctctatgg acagtgccct antgctgagc agcttgagcg gaagcagctg gagtgcgagc
840

aggtgctgca gaaacnttgc ccaggaaatc gggagcacca accgtgcctt gcgt
894

<210> 5364
<211> 187
<212> PRT
<213> Homo sapiens

<400> 5364
Ala Ala Leu Pro Ser Arg Cys Pro Leu Gln Pro Arg Gln Pro Trp Arg
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Arg Trp Arg Lys Arg Ala Leu Gly Arg Leu Gln Gly Xaa Gly Pro Gln
            20   25   30
Pro Gly Leu Tyr Ser Tyr Ile Arg Asp Asp Leu Phe Thr Ser Glu Ile
            35   40   45
Phe Lys Leu Glu Leu Gln Asn Ala Pro Arg His Ala Ser Phe Ser Asp
        50   55   60
Val Arg Arg Phe Leu Gly Arg Phe Gly Leu Gln Pro His Lys Thr Lys
65   70   75   80
Leu Phe Gly Gln Pro Pro Cys Ala Phe Val Thr Phe Arg Ser Ala Ala
                85   90   95
Glu Arg Asp Lys Ala Leu Arg Val Leu His Gly Ala Leu Trp Lys Gly
            100   105   110
Arg Pro Leu Ser Val Ala Trp Pro Gly Pro Arg Pro Thr Pro Trp Pro
            115   120   125
Gly Gly Gly Xaa Gln Glu Gly Glu Ser Glu Pro Pro Val Thr Arg Xaa
        130   135   140
Gly Arg Arg Gly Asp Pro Ser Met Asp Ser Ala Leu Xaa Leu Ser Ser
145   150   155   160
Leu Ser Gly Ser Ser Trp Ser Ala Ser Arg Cys Cys Arg Asn Xaa Ala
                165   170   175
Gln Glu Ile Gly Ser Thr Asn Arg Ala Leu Arg
            180   185

<210> 5365
<211> 1824

<212> DNA
<213> Homo sapiens

<400> 5365
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120
gaactcgcca gaaaactgca ggaggaagct acgtgctcca tctgtctgga ttacttcaca
180
gaccctgtga tgaccacctg tggccacaac ttctgccgag cctgcatcca gctgagctgg
240
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300
tgcagagaga tgtccccgca gaggaacctg ctgcccaacc ggctgctgac caaggtggcc
360
gagatggcgc agcagcatcc tggtctgcag aagcaagacc tgtgccagga gcaccacgag
420
cccctcaagc ttttctgcca gaaggaccag agccccatct gtgtggtgtg cagggagtcc
480
cgggagcacc ggctgcacag ggtgctgccc gccgaggagg cagtgcaggg gtacaagttg
540
aagctggagg aggacatgga gtaccttcgg gagcagatca ccaggacagg gaatctgcag
600
gccagggagg agcagagctt agccgagtgg cagggcaagg tgaaggagcg gagagaacgc
660
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720
caggctctgg agacggaaga agaggagact gccagcaggc tccgggagag cgtggcctgc
780
ctggaccggc agggtcactc tctggagctg ctgctgctgc agctggagga gcggagcaca
840
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900
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960
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1200
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1260
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1320
gccctaaccc cggtcatgct gatggagcct cccagccaca tgggcatctt cctggacttc
1380
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1440
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1500

4545

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1620
agggttctct ggcatcacgc tggcagccat tagacacaca gggggggtttc tcaaattcta
1680
aatataattg tgattagaac tgtcaaacat taagagggta tactgacaga tgcttcctag
1740
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1800
accaaaaaaa aaaaaaagtc gagc
1824


<210> 5366
<211> 477
<212> PRT
<213> Homo sapiens

<400> 5366
Met Glu Ala Val Glu Leu Ala Arg Lys Leu Gln Glu Glu Ala Thr Cys
1               5                   10                  15
Ser Ile Cys Leu Asp Tyr Phe Thr Asp Pro Val Met Thr Thr Cys Gly
            20                  25                  30
His Asn Phe Cys Arg Ala Cys Ile Gln Leu Ser Trp Glu Lys Ala Arg
        35                  40                  45
Gly Lys Lys Gly Arg Arg Lys Arg Lys Gly Ser Phe Pro Cys Pro Glu
    50                  55                  60
Cys Arg Glu Met Ser Pro Gln Arg Asn Leu Leu Pro Asn Arg Leu Leu
65                  70                  75                  80
Thr Lys Val Ala Glu Met Ala Gln Gln His Pro Gly Leu Gln Lys Gln
            85                  90                  95
Asp Leu Cys Gln Glu His His Glu Pro Leu Lys Leu Phe Cys Gln Lys
            100                 105                 110
Asp Gln Ser Pro Ile Cys Val Val Cys Arg Glu Ser Arg Glu His Arg
        115                 120                 125
Leu His Arg Val Leu Pro Ala Glu Glu Ala Val Gln Gly Tyr Lys Leu
    130                 135                 140
Lys Leu Glu Glu Asp Met Glu Tyr Leu Arg Glu Gln Ile Thr Arg Thr
145                 150                 155                 160
Gly Asn Leu Gln Ala Arg Glu Glu Gln Ser Leu Ala Glu Trp Gln Gly
            165                 170                 175
Lys Val Lys Glu Arg Arg Glu Arg Ile Val Leu Glu Phe Glu Lys Met
            180                 185                 190
Asn Leu Tyr Leu Val Glu Glu Glu Gln Arg Leu Leu Gln Ala Leu Glu
            195                 200                 205
Thr Glu Glu Glu Glu Thr Ala Ser Arg Leu Arg Glu Ser Val Ala Cys
    210                 215                 220
Leu Asp Arg Gln Gly His Ser Leu Glu Leu Leu Leu Leu Gln Leu Glu
225                 230                 235                 240
Glu Arg Ser Thr Gln Gly Pro Leu Gln Met Leu Gln Asp Met Lys Glu
            245                 250                 255
Pro Leu Ser Arg Lys Asn Asn Val Ser Val Gln Cys Pro Glu Val Ala
            260                 265                 270
Pro Pro Thr Arg Pro Arg Thr Val Cys Arg Val Pro Gly Gln Ile Glu
```

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            275                  280                  285
Val Leu Arg Gly Phe Leu Glu Asp Val Val Pro Asp Ala Thr Ser Ala
        290                  295                  300
Tyr Pro Tyr Leu Leu Leu Tyr Glu Ser Arg Gln Arg Arg Tyr Leu Gly
305                  310                  315                  320
Ser Ser Pro Glu Gly Ser Gly Phe Cys Ser Lys Asp Arg Phe Val Ala
                325                  330                  335
Tyr Pro Cys Ala Val Gly Gln Thr Ala Phe Ser Ser Gly Arg His Tyr
                340                  345                  350
Trp Glu Val Gly Met Asn Ile Thr Gly Asp Ala Leu Trp Ala Leu Gly
            355                  360                  365
Val Cys Arg Asp Asn Val Ser Arg Lys Asp Arg Val Leu Lys Cys Pro
        370                  375                  380
Glu Asn Gly Phe Trp Val Val Gln Leu Ser Lys Gly Thr Lys Tyr Leu
385                  390                  395                  400
Ser Thr Phe Ser Ala Leu Thr Pro Val Met Leu Met Glu Pro Pro Ser
                405                  410                  415
His Met Gly Ile Phe Leu Asp Phe Glu Ala Gly Glu Val Ser Phe Tyr
                420                  425                  430
Ser Val Ser Asp Gly Ser His Leu His Thr Tyr Ser Gln Ala Thr Phe
            435                  440                  445
Pro Gly Pro Leu Gln Pro Phe Phe Cys Leu Gly Ala Pro Lys Ser Gly
        450                  455                  460
Gln Met Val Ile Ser Thr Val Thr Met Trp Val Lys Gly
465                  470                  475
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<210> 5367
<211> 549
<212> DNA
<213> Homo sapiens

<400> 5367
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ggatctcggg tggctgcatg cgtgtctcct tgggggaagt ctcgggggaa gtaggctgtg
120
gagtctcagg ggctggggat gctgccccccg aagcccccta cttttgggga gttcctgtcc
180
cagcacaaag ctgaggccag cagccgcaga aggagaaaga gcagtcggcc ccaggccaag
240
gcagcgccca gggcctacag tgaccatgat gaccgctggg agacaaaaga aggggcagca
300
tccccagccc ctgagactcc acagcctact tcccccgaga cttcccccaa ggagacaccc
360
atgcagccac ccgagatccc agctcctgcc caccggcctc ctgaagacga gggggaagag
420
aatgagggggg aagaggatga agaatgggag gacataagtg aggatgagga agaggaggag
480
atcgaggtgg aagaaggtga tgaggaggaa ccagcccaag accaccaagc cccagaggct
540
gcccccacc
549


<210> 5368
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<211> 137
<212> PRT
<213> Homo sapiens

<400> 5368
Met Leu Pro Pro Lys Pro Pro Thr Phe Gly Glu Phe Leu Ser Gln His
1   5   10   15
Lys Ala Glu Ala Ser Ser Arg Arg Arg Arg Lys Ser Ser Arg Pro Gln
            20   25   30
Ala Lys Ala Ala Pro Arg Ala Tyr Ser Asp His Asp Asp Arg Trp Glu
        35   40   45
Thr Lys Glu Gly Ala Ala Ser Pro Ala Pro Glu Thr Pro Gln Pro Thr
    50   55   60
Ser Pro Glu Thr Ser Pro Lys Glu Thr Pro Met Gln Pro Pro Glu Ile
65   70   75   80
Pro Ala Pro Ala His Arg Pro Pro Glu Asp Glu Gly Glu Glu Asn Glu
                85   90   95
Gly Glu Glu Asp Glu Glu Trp Glu Asp Ile Ser Glu Asp Glu Glu Glu
            100   105   110
Glu Glu Ile Glu Val Glu Glu Gly Asp Glu Glu Glu Pro Ala Gln Asp
        115   120   125
His Gln Ala Pro Glu Ala Ala Pro Thr
    130   135

<210> 5369
<211> 646
<212> DNA
<213> Homo sapiens

<400> 5369
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cgccgccggc tcggtcccgc gcccgccatg gcccgcctga cggagagcga ggcgcgccgg
120
cagcagcagc agctcctgca gccgcggccc tcgcccgtgg gcagcagcgg gcccgagccc
180
ccgggggggc agcccgacgg catgaaggac ctggacgcca tcaaactctt cgtgggccag
240
atcccgcggc acctggacga gaaggacctc aagccgctct cgagcagtt cggccgcatc
300
tacgagctca cggtgctcaa agacccctac acggggatgc acaaaggtgg gcgcccggcc
360
ccctcccccc tctcccctc cctccgcctc ccaccccacc ttccggcatc ttctctcccc
420
catcaccatc cctcctctgc tcacctccct cctctgcctg cctctgccgg agcatcggtt
480
cttacccct ccctcccacc caccctcct ccctctctg ggggtgcagc tgacagatcc
540
gagcgggccc cctcccctcc tccgcccct ctcctcct ccccaccttc cggcatctcc
600
tctctctc cctctctctc tccctctctc tctcccttc tcttct
646

<210> 5370

<211> 148
<212> PRT
<213> Homo sapiens

<400> 5370
Met Lys Asp Leu Asp Ala Ile Lys Leu Phe Val Gly Gln Ile Pro Arg
 1   5   10   15
His Leu Asp Glu Lys Asp Leu Lys Pro Leu Phe Glu Gln Phe Gly Arg
                20   25   30
Ile Tyr Glu Leu Thr Val Leu Lys Asp Pro Tyr Thr Gly Met His Lys
            35   40   45
Gly Gly Arg Pro Ala Pro Ser Pro Leu Ser Pro Ser Leu Arg Leu Pro
        50   55   60
Pro His Leu Pro Ala Ser Ser Leu Pro His His His Pro Ser Ser Ala
65   70   75   80
His Leu Pro Pro Leu Pro Ala Ser Ala Gly Ala Ser Val Leu Thr Pro
                85   90   95
Ser Leu Pro Pro Thr Pro Pro Pro Leu Ser Gly Gly Ala Ala Asp Arg
            100   105   110
Ser Glu Arg Ala Pro Ser Pro Pro Pro Pro Pro Leu Pro Pro Ser Pro
        115   120   125
Pro Ser Gly Ile Ser Ser Leu Ser Pro Ser Leu Ser Pro Ser Leu Ser
    130   135   140
Pro Phe Leu Phe
145

<210> 5371
<211> 1177
<212> DNA
<213> Homo sapiens

<400> 5371
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60
agcccgcaaa cggagctgcg gtcggacttc cagtgcgttg tgggcttcgg gggcattcac
120
tccacgccgt ccactgtcct cagcgaccag gccaagtatc taaacccctt actgggagag
180
tggaagcact tcactgcctc cctggccccc cgcatgtcca accagggcat cgcggtgctc
240
aacaacttcg tatacttgat tggaggggac aacaatgtcc aaggatttcg agcagagtcc
300
cgatgctgga ggtatgaccc acggcacaac cgctggnttc cagatccagt ccctgcagca
360
ggagcacgcc gacctgtcnn cgtgtgtgtt gtaggcaggt acatctacgc tgtggcgggc
420
cgtgactacc acaatgacct gaatgctgtg gagcgctacg accctgccac caactcctgg
480
gcatacgtgg ccccactcaa gagggaggtg tatgcccacg caggcgcgac gctggagggg
540
aagatgtata tcacctgcgg ccgcagaggg gaggattacc tgaaagagac acactgctac
600
gatccaggca gcaacacttg cacacactg gctgatgggc ctgtgcggcg cgcctggcac
660

4549

```
ggcatggcaa ccctcctcaa caagctgtat gtgatcgggg gcagcaacaa cgatgccgga
720
tacaggaggg acgtgcacca ggtggcctgc tacagctgca cgtctggaca gtggtcatct
780
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840
tatgtgttag gtggccgctc acacaaccgc ggcagccgca caggctacgt gcacatttac
900
gatgtggaga aggactgctg ggaggaaggg ccccagctgg acaactccat ctcaggcctg
960
gcggcctgtg tgctcaccct gccccgctcc ctgctccttg agccgccccg cgggacccct
1020
gaccgcagcc aggccgaccc ggactttgcc tctgaggtga tgagtgtgtc tgactgggag
1080
gagtttgaca actccagtga ggactaggct ccctgtgcct ggcatcagag ggaagggagg
1140
ctggggctgc agggcagtga aacccacgca gcctagg
1177


<210> 5372
<211> 368
<212> PRT
<213> Homo sapiens

<400> 5372
Xaa His Ser Ala Ser Ala Leu Met Tyr His Arg Asn Glu Ser Leu Gln
1               5                   10                  15
Pro Ser Leu Gln Ser Pro Gln Thr Glu Leu Arg Ser Asp Phe Gln Cys
            20                  25                  30
Val Val Gly Phe Gly Gly Ile His Ser Thr Pro Ser Thr Val Leu Ser
            35                  40                  45
Asp Gln Ala Lys Tyr Leu Asn Pro Leu Leu Gly Glu Trp Lys His Phe
        50                  55                  60
Thr Ala Ser Leu Ala Pro Arg Met Ser Asn Gln Gly Ile Ala Val Leu
65                  70                  75                  80
Asn Asn Phe Val Tyr Leu Ile Gly Gly Asp Asn Asn Val Gln Gly Phe
                85                  90                  95
Arg Ala Glu Ser Arg Cys Trp Arg Tyr Asp Pro Arg His Asn Arg Trp
                100                 105                 110
Xaa Pro Asp Pro Val Pro Ala Ala Gly Ala Arg Arg Pro Val Xaa Val
            115                 120                 125
Cys Val Val Gly Arg Tyr Ile Tyr Ala Val Ala Gly Arg Asp Tyr His
        130                 135                 140
Asn Asp Leu Asn Ala Val Glu Arg Tyr Asp Pro Ala Thr Asn Ser Trp
145                 150                 155                 160
Ala Tyr Val Ala Pro Leu Lys Arg Glu Val Tyr Ala His Ala Gly Ala
                165                 170                 175
Thr Leu Glu Gly Lys Met Tyr Ile Thr Cys Gly Arg Arg Gly Glu Asp
                180                 185                 190
Tyr Leu Lys Glu Thr His Cys Tyr Asp Pro Gly Ser Asn Thr Trp His
            195                 200                 205
Thr Leu Ala Asp Gly Pro Val Arg Arg Ala Trp His Gly Met Ala Thr
    210                 215                 220
Leu Leu Asn Lys Leu Tyr Val Ile Gly Gly Ser Asn Asn Asp Ala Gly
```

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225                    230                    235                    240
Tyr Arg Arg Asp Val His Gln Val Ala Cys Tyr Ser Cys Thr Ser Gly
                245                    250                    255
Gln Trp Ser Ser Val Cys Pro Leu Pro Ala Gly His Gly Glu Pro Gly
                260                    265                    270
Ile Ala Val Leu Asp Asn Arg Ile Tyr Val Leu Gly Gly Arg Ser His
                275                    280                    285
Asn Arg Gly Ser Arg Thr Gly Tyr Val His Ile Tyr Asp Val Glu Lys
        290                    295                    300
Asp Cys Trp Glu Glu Gly Pro Gln Leu Asp Asn Ser Ile Ser Gly Leu
305                    310                    315                    320
Ala Ala Cys Val Leu Thr Leu Pro Arg Ser Leu Leu Leu Glu Pro Pro
                325                    330                    335
Arg Gly Thr Pro Asp Arg Ser Gln Ala Asp Pro Asp Phe Ala Ser Glu
                340                    345                    350
Val Met Ser Val Ser Asp Trp Glu Glu Phe Asp Asn Ser Ser Glu Asp
                355                    360                    365
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<210> 5373
<211> 4221
<212> DNA
<213> Homo sapiens

<400> 5373
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120
gactacttgg aagggaaaat ctcctttgag gagttcgaac ggcggagaga agagagaaaa
180
acccgcgaga agaaaagtct tcaggaaaaa ggcaagttat cagctgaaga aaatcccgat
240
gactctgaag ttccatcatc atcaggaatt aactctacca aatcccaaga caaagatgtc
300
aatgaaggag aaacatcaga tggagtgagg aagtcagttc acaaggtctt tgcttccatg
360
cttggagaga atgaagatga tgaggaggaa gaggaagaag aggaggagga ggaggaggag
420
gaagaaacac ctgagcaacc cactgcgggc gatgtatttg tattggagat ggttctcaat
480
cgtgaaacca agaaaatgat gaaagagaaa aggcctcgga gtaaacttcc cagagctctg
540
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600
ttgatgtgca tggaaatcat aagacaagct cctctggctt atgagccatt ctctactcta
660
gccatgatat atgaggacca aggtgacatg gaaaaatcat tgcagtttga gttgattgct
720
gcgcatttaa atcccagtga cacagaagaa tgggttagac tggcagaaat gtctctggaa
780
caagacaata ttaagcaggc tattttttgc tatacaaaag ctcttaaata tgaacctact
840
aatgtccgtt atctgtggga gcgatcaagc ctttatgaac agatgggtga tcataaaatg
900
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gccatggatg gttataggcg tattttaaac cttttgtctc catctgatgg cgaacgtttt
960
atgcagctgg ctagagatat ggcaaagagt tactatgaag ccaatgatgt tacttctgct
1020
attaacataa ttgatgaagc tttctcaaaa caccagggcc tagtctccat ggaagatgtt
1080
aacatagcag ctgaactata tatttctaac aaacagtatg acaaagcttt ggagataatt
1140
acagattttt ctggaattgt gctggaaaaa aaaacttcag aagaaggcac ctcagaagag
1200
aataaagctc ctgagaatgt tacctgcact atacctgatg gcgtgccaat agatatcaca
1260
gtgaagttga tggtctgcct tgtacatctc aacattcttg aaccacttaa tcctctcttg
1320
acaacactag tagaacagaa tcctgaagat atgggagacc tatacctaga tgttgctgaa
1380
gcttttctgg atgttggtga atataattct gcacttcccc tcctcagtgc tcttgtttgc
1440
tctgaaagat acaaccttgc agtagtttgg cttcgtcatg cagaatgttt aaaggcctta
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1560
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1620
ctggaagctc tggaaccaat gtatgatcca gatactttag cacaggatgc aaatgctgca
1680
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1740
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1800
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1860
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1920
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1980
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2040
gattcctcat tggaatatta ctcattttat gatgacaggc aaaaacgcaa agaactagaa
2100
tactttggtc tgtctgctgc aattctggac aaaaatttca gaaaggcata caactatatc
2160
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2220
accatgcact cccaagatgt acgacatcat cgcttctgtc tccgtttgat gctgaaaaac
2280
ccagaaaatc atgccctatg tgtcttaaat ggacacaatg catttgtatc tggtagtttt
2340
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2460
catgctctta ttgtacaggg ctttttccttt cttaatcgat acctcagttt acgtgggccc
2520
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tgccaggaat cattctacaa tttgggccgt ggccttcatc agttggggct gattcatctt
2580
gcaatccact attatcagaa ggccctggag ctccctccac ttgtggtaga gggtatagaa
2640
cttgaccagt tagacttacg aagagatatt gcctacaact tgtctctcat ctatcagagc
2700
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2760
gcaactgaga acagagcaat ggcagctgct gtgtgaggac cagtgtcttc tgtctcaggg
2820
cttattattt gtaactccaa aatagaaatg acaatttcag aattacctaa caaacagtgt
2880
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2940
atttgtatat tggtctgtca ttttcctttc acattctata gtgaattgtt cccaatgttg
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catttattca tctttgtatt taatactata gctctgtcaa tatcacatga ggcagttttt
3120
caaatacgta taaacagagg ttgcttatta ttaaaggaaa gacaaagtgg gactctttat
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3240
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3300
ctgaaacatg ggaggctggg cttaattcaa aatatattgc tccaaggcaa ataaaaaaat
3360
gctttatcta tatttgtggc tttctgatga aaaaatagag aagagcttgt tcaataacag
3420
gacatggttt ccatttcaag atcacaagta atataagact gggcaagtag tacgtatgga
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3540
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3600
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3660
ttagtaacac ccagcccaat tgtgggaggg aaacaagtag aggcttagga tcaaagaaat
3720
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3780
tgagcagaat ttgtatgcaa taagtaaata tattgtatac tccatgtgta taatttaaat
3840
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3900
tttataggta atggtagagg taactgagat acagtaataa gttagacttg tgtgttggaa
3960
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4020
tggctccagt gtctactaaa tagccgtgga ggaaataagt ctccctgttt tatgcactga
4080
gactctgctg ctcctgcatg atcacagttg atcgaggagg gagtctgctc ctgaaccaac
4140
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ctgggccaat caggagtttc ctcccgcctt ccctgggaat ttcagacttg aaatagttca
4200
tgtagggcca gaacttcaga a
4221
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<210> 5374
<211> 886
<212> PRT
<213> Homo sapiens

<400> 5374

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			20					25					30		
Lys	Lys	Ser	Leu	Gln	Glu	Lys	Gly	Lys	Leu	Ser	Ala	Glu	Glu	Asn	Pro
			35					40					45		
Asp	Asp	Ser	Glu	Val	Pro	Ser	Ser	Ser	Gly	Ile	Asn	Ser	Thr	Lys	Ser
	50					55					60				
Gln	Asp	Lys	Asp	Val	Asn	Glu	Gly	Glu	Thr	Ser	Asp	Gly	Val	Arg	Lys
65					70					75					80
Ser	Val	His	Lys	Val	Phe	Ala	Ser	Met	Leu	Gly	Glu	Asn	Glu	Asp	Asp
				85					90					95	
Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Thr
			100					105					110		
Pro	Glu	Gln	Pro	Thr	Ala	Gly	Asp	Val	Phe	Val	Leu	Glu	Met	Val	Leu
			115					120					125		
Asn	Arg	Glu	Thr	Lys	Lys	Met	Met	Lys	Glu	Lys	Arg	Pro	Arg	Ser	Lys
		130					135					140			
Leu	Pro	Arg	Ala	Leu	Arg	Gly	Leu	Met	Gly	Glu	Ala	Asn	Ile	Arg	Phe
145					150					155					160
Ala	Arg	Gly	Glu	Arg	Glu	Glu	Ala	Ile	Leu	Met	Cys	Met	Glu	Ile	Ile
				165					170					175	
Arg	Gln	Ala	Pro	Leu	Ala	Tyr	Glu	Pro	Phe	Ser	Thr	Leu	Ala	Met	Ile
			180					185					190		
Tyr	Glu	Asp	Gln	Gly	Asp	Met	Glu	Lys	Ser	Leu	Gln	Phe	Glu	Leu	Ile
			195					200					205		
Ala	Ala	His	Leu	Asn	Pro	Ser	Asp	Thr	Glu	Glu	Trp	Val	Arg	Leu	Ala
	210					215					220				
Glu	Met	Ser	Leu	Glu	Gln	Asp	Asn	Ile	Lys	Gln	Ala	Ile	Phe	Cys	Tyr
225					230					235					240
Thr	Lys	Ala	Leu	Lys	Tyr	Glu	Pro	Thr	Asn	Val	Arg	Tyr	Leu	Trp	Glu
			245					250					255		
Arg	Ser	Ser	Leu	Tyr	Glu	Gln	Met	Gly	Asp	His	Lys	Met	Ala	Met	Asp
			260					265					270		
Gly	Tyr	Arg	Arg	Ile	Leu	Asn	Leu	Leu	Ser	Pro	Ser	Asp	Gly	Glu	Arg
		275					280					285			
Phe	Met	Gln	Leu	Ala	Arg	Asp	Met	Ala	Lys	Ser	Tyr	Tyr	Glu	Ala	Asn
		290					295					300			
Asp	Val	Thr	Ser	Ala	Ile	Asn	Ile	Ile	Asp	Glu	Ala	Phe	Ser	Lys	His
305					310					315					320
Gln	Gly	Leu	Val	Ser	Met	Glu	Asp	Val	Asn	Ile	Ala	Ala	Glu	Leu	Tyr
			325					330					335		
Ile	Ser	Asn	Lys	Gln	Tyr	Asp	Lys	Ala	Leu	Glu	Ile	Ile	Thr	Asp	Phe

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                    340                      345                      350
Ser Gly Ile Val Leu Glu Lys Lys Thr Ser Glu Glu Gly Thr Ser Glu
            355                      360                      365
Glu Asn Lys Ala Pro Glu Asn Val Thr Cys Thr Ile Pro Asp Gly Val
        370                      375                      380
Pro Ile Asp Ile Thr Val Lys Leu Met Val Cys Leu Val His Leu Asn
385                      390                      395                      400
Ile Leu Glu Pro Leu Asn Pro Leu Leu Thr Thr Leu Val Glu Gln Asn
                    405                      410                      415
Pro Glu Asp Met Gly Asp Leu Tyr Leu Asp Val Ala Glu Ala Phe Leu
                420                      425                      430
Asp Val Gly Glu Tyr Asn Ser Ala Leu Pro Leu Leu Ser Ala Leu Val
            435                      440                      445
Cys Ser Glu Arg Tyr Asn Leu Ala Val Val Trp Leu Arg His Ala Glu
        450                      455                      460
Cys Leu Lys Ala Leu Gly Tyr Met Glu Arg Ala Ala Glu Ser Tyr Gly
465                      470                      475                      480
Lys Val Val Asp Leu Ala Pro Leu His Leu Asp Ala Arg Ile Ser Leu
                    485                      490                      495
Ser Thr Leu Gln Gln Gln Leu Gly Gln Pro Glu Lys Ala Leu Glu Ala
                500                      505                      510
Leu Glu Pro Met Tyr Asp Pro Asp Thr Leu Ala Gln Asp Ala Asn Ala
            515                      520                      525
Ala Gln Gln Glu Leu Lys Leu Leu His Arg Ser Thr Leu Leu Phe
        530                      535                      540
Ser Gln Gly Lys Met Tyr Gly Tyr Val Asp Thr Leu Leu Thr Met Leu
545                      550                      555                      560
Ala Met Leu Leu Lys Val Ala Met Asn Arg Ala Gln Val Cys Leu Ile
            565                      570                      575
Ser Ser Ser Lys Ser Gly Glu Arg His Leu Tyr Leu Ile Lys Val Ser
            580                      585                      590
Arg Asp Lys Ile Ser Asp Ser Asn Asp Gln Glu Ser Ala Asn Cys Asp
        595                      600                      605
Ala Lys Ala Ile Phe Ala Val Leu Thr Ser Val Leu Thr Lys Asp Asp
        610                      615                      620
Trp Trp Asn Leu Leu Leu Lys Ala Ile Tyr Ser Leu Cys Asp Leu Ser
625                      630                      635                      640
Arg Phe Gln Glu Ala Glu Leu Leu Val Asp Ser Ser Leu Glu Tyr Tyr
                645                      650                      655
Ser Phe Tyr Asp Asp Arg Gln Lys Arg Lys Glu Leu Glu Tyr Phe Gly
                660                      665                      670
Leu Ser Ala Ala Ile Leu Asp Lys Asn Phe Arg Lys Ala Tyr Asn Tyr
            675                      680                      685
Ile Arg Ile Met Val Met Glu Asn Val Asn Lys Pro Gln Leu Trp Asn
        690                      695                      700
Ile Phe Asn Gln Val Thr Met His Ser Gln Asp Val Arg His His Arg
705                      710                      715                      720
Phe Cys Leu Arg Leu Met Leu Lys Asn Pro Glu Asn His Ala Leu Cys
                725                      730                      735
Val Leu Asn Gly His Asn Ala Phe Val Ser Gly Ser Phe Lys His Ala
            740                      745                      750
Leu Gly Gln Tyr Val Gln Ala Phe Arg Thr His Pro Asp Glu Pro Leu
        755                      760                      765
Tyr Ser Phe Cys Ile Gly Leu Thr Phe Ile His Met Ala Ser Gln Lys
```

```
         770                    775                    780
Tyr Val Leu Arg Arg His Ala Leu Ile Val Gln Gly Phe Ser Phe Leu
785                    790                    795                    800
Asn Arg Tyr Leu Ser Leu Arg Gly Pro Cys Gln Glu Ser Phe Tyr Asn
                 805                    810                    815
Leu Gly Arg Gly Leu His Gln Leu Gly Leu Ile His Leu Ala Ile His
                 820                    825                    830
Tyr Tyr Gln Lys Ala Leu Glu Leu Pro Pro Leu Val Val Glu Gly Ile
         835                    840                    845
Glu Leu Asp Gln Leu Asp Leu Arg Arg Asp Ile Ala Tyr Asn Leu Ser
    850                    855                    860
Leu Ile Tyr Gln Ser Ser Gly Asn Thr Gly Met Ala Gln Thr Leu Leu
865                    870                    875                    880
Tyr Thr Tyr Cys Ser Ile
                 885
```

```
<210> 5375
<211> 526
<212> DNA
<213> Homo sapiens
```

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<400> 5375
ctctaggaac ccctccaagt ggctcggtgt cgccctcagc ttttctaaag ggatggatga
60
tagggtcagg ggtagaggat ttgtgatcct tcaagtttgc agggcttccc gtgttctaag
120
tggtaacgat ctgtcttctg caaatgggtt acagcgtgct gctgccagtt ctgaatcccc
180
agtagcccgg acttgggtgc agttgaaatc catttccctt tttgccttta gtgaggcatc
240
cccctcctcc ttattaaaga agaatacatg tcgctgccat ttgccacgta tttgccatag
300
acccaggact attagcatct ttaacccacg taaccacact ggggatggct ggggaatgtt
360
catgtcccca tttacagga gtggtgatta aggctcaaag gatggaggtg atggatcaaa
420
gtcgtctgcc aagtggtggc agcattggtt ctcagaccga ggcccgtcta cacagtgctg
480
tgcctcctcc caccacgaat gcacgtggcc cactctgccc acgcgt
526
```

```
<210> 5376
<211> 112
<212> PRT
<213> Homo sapiens
```

```
<400> 5376
Met Asp Asp Arg Val Arg Gly Arg Gly Phe Val Ile Leu Gln Val Cys
1               5                   10                  15
Arg Ala Ser Arg Val Leu Ser Gly Asn Asp Leu Ser Ser Ala Asn Gly
                 20                  25                  30
Leu Gln Arg Ala Ala Ala Ser Ser Glu Ser Pro Val Ala Arg Thr Trp
         35                  40                  45
Val Gln Leu Lys Ser Ile Ser Leu Phe Ala Phe Ser Glu Ala Ser Pro
```

```
     50                      55                      60
Ser Ser Leu Leu Lys Lys Asn Thr Cys Arg Cys His Leu Pro Arg Ile
65                      70                      75                      80
Cys His Arg Pro Arg Thr Ile Ser Ile Phe Asn Pro Arg Asn His Thr
                    85                      90                      95
Gly Asp Gly Trp Gly Met Phe Met Ser Pro Phe Tyr Arg Ser Gly Asp
                100                     105                     110
```

<210> 5377
<211> 1452
<212> DNA
<213> Homo sapiens

<400> 5377
nctcgagctg ggtcccgatt cagacatgaa atatccttta catggtgtcc atccatgtat
60
cttgtggcgg cctcggcagc ggtgttctcg cgcttgcgaa gcgggctccg gctcggctcg
120
cggggactgt gcacgaggtt ggcgacgccg ccccgccggg ccccagatca ggccgcagag
180
atcgggagcc gcgggagcac taaggcgcaa gggccacagc agcagccggg ctcagagggt
240
cccagctatg ccaaaaaagt tgcgctctgg cttgctgggc tgcttggagc tggtgggact
300
gtgagcgtcg tctatatctt tggaaacaac ccggtggacg aaaatggtgc caagattcct
360
gatgagttcg acaatgatcc aattctggta cagcagttgc gccggacata caaatatttc
420
aaagattata gacagatgat catcgagccc accagccctt gccttctccc agaccctctg
480
caggaaccgt actaccagcc accctacacg ctcgtttttg agctcaccgg cgtcctcttg
540
catcctgagt ggtcgctggc cactggctgg aggtttaaga agcgcccagg catcgagacc
600
ttgttccagc agcttgcccc tttatatgaa attgtcatct ttacgtcaga gactggcatg
660
actgcgtttc cactcattga tagtgtggac ccccatggct catctcccta ccgcctattc
720
cgggacgcca caagatacat ggatggacac catgtaaagg atatttcatg tctgaatcgg
780
gacccagctc gagtagtagt tgtggactgc aagaaggaag ccttccgcct gcagccctat
840
aacggcgttg ccctgcggcc ctgggacggc aactctgatg accgggtctt gttggatctg
900
tctgccttcc tcaagaccat tgcactgaat ggtgtggagg acgtgcgaac cgtgctggag
960
cactatgccc tggaggatga cccgctggcg gctttcaaac agcggcaaag ccggctagag
1020
caggaggagc agcagcgcct ggccgagctc tccaagtcca acaagcagaa cctcttcctt
1080
ggctccctca ccagccgctt gtggcctcgc tccaaacagc cctgaactct gggcctcctc
1140
aaactcagtg cctgggtcca gggccccagt gcttccagac caagacttgg gccaccactt
1200
```

gtccaataaa gtacatccca gacgccacac ctgctgtgtc ccgagagtct ccagatgggg
1260
gcatcagggt gaggtccggg actcttgggt catcgtccca cagtggctga tcggctgcca
1320
agcacagtgg gggtgctttg ttggatcaga gcagattttt caccctggtc tcggaatcta
1380
aaaaccctcg ctgtgtcttc ctgtgtgttg cgtgatctgt gaaaaataca tctccctctg
1440
accaaaaaaa aa
1452


<210> 5378
<211> 374
<212> PRT
<213> Homo sapiens


<400> 5378
Xaa Arg Ala Gly Ser Arg Phe Arg His Glu Ile Ser Phe Thr Trp Cys
 1               5                  10                  15
Pro Ser Met Tyr Leu Val Ala Ala Ser Ala Ala Val Phe Ser Arg Leu
                20                  25                  30
Arg Ser Gly Leu Arg Leu Gly Ser Arg Gly Leu Cys Thr Arg Leu Ala
            35                  40                  45
Thr Pro Pro Arg Arg Ala Pro Asp Gln Ala Ala Glu Ile Gly Ser Arg
        50                  55                  60
Gly Ser Thr Lys Ala Gln Gly Pro Gln Gln Gln Pro Gly Ser Glu Gly
65                  70                  75                  80
Pro Ser Tyr Ala Lys Lys Val Ala Leu Trp Leu Ala Gly Leu Leu Gly
                85                  90                  95
Ala Gly Gly Thr Val Ser Val Val Tyr Ile Phe Gly Asn Asn Pro Val
                100                 105                 110
Asp Glu Asn Gly Ala Lys Ile Pro Asp Glu Phe Asp Asn Asp Pro Ile
            115                 120                 125
Leu Val Gln Gln Leu Arg Arg Thr Tyr Lys Tyr Phe Lys Asp Tyr Arg
        130                 135                 140
Gln Met Ile Ile Glu Pro Thr Ser Pro Cys Leu Leu Pro Asp Pro Leu
145                 150                 155                 160
Gln Glu Pro Tyr Tyr Gln Pro Pro Tyr Thr Leu Val Leu Glu Leu Thr
                165                 170                 175
Gly Val Leu Leu His Pro Glu Trp Ser Leu Ala Thr Gly Trp Arg Phe
                180                 185                 190
Lys Lys Arg Pro Gly Ile Glu Thr Leu Phe Gln Gln Leu Ala Pro Leu
            195                 200                 205
Tyr Glu Ile Val Ile Phe Thr Ser Glu Thr Gly Met Thr Ala Phe Pro
        210                 215                 220
Leu Ile Asp Ser Val Asp Pro His Gly Phe Ile Ser Tyr Arg Leu Phe
225                 230                 235                 240
Arg Asp Ala Thr Arg Tyr Met Asp Gly His His Val Lys Asp Ile Ser
                245                 250                 255
Cys Leu Asn Arg Asp Pro Ala Arg Val Val Val Val Asp Cys Lys Lys
                260                 265                 270
Glu Ala Phe Arg Leu Gln Pro Tyr Asn Gly Val Ala Leu Arg Pro Trp
            275                 280                 285
Asp Gly Asn Ser Asp Asp Arg Val Leu Leu Asp Leu Ser Ala Phe Leu


4558

```
        290                    295                    300
Lys Thr Ile Ala Leu Asn Gly Val Glu Asp Val Arg Thr Val Leu Glu
305                    310                    315                    320
His Tyr Ala Leu Glu Asp Asp Pro Leu Ala Ala Phe Lys Gln Arg Gln
                  325                    330                    335
Ser Arg Leu Glu Gln Glu Glu Gln Gln Arg Leu Ala Glu Leu Ser Lys
                  340                    345                    350
Ser Asn Lys Gln Asn Leu Phe Leu Gly Ser Leu Thr Ser Arg Leu Trp
             355                    360                    365
Pro Arg Ser Lys Gln Pro
        370
```

<210> 5379
<211> 3213
<212> DNA
<213> Homo sapiens

<400> 5379
naggcgtcac tcaatatccc tgcagtggcg gccgcccatg tgatcaaacg gtatacagcc
60
caggcgccag atgagctgtc ctttgaggtg aggctgtggg gaagcagatt ccagctgggc
120
tccccacacc ccctgctcct tctgaccctt ctcttcccac ccgccctctc ccaggtggga
180
gacattgtct cggtgatcga catgccaccc acagaggatc ggagctggtg gcggggcaag
240
cgaggcttcc agctgtgcca cggcctcgtg ggaagctggc cggcctgctc cgcaccttca
300
tgcgctcccg cccttctcgg cagcggctgc ggcagcgggg aatcctgcga cagagggtgt
360
ttggctgcga tcttggcgag cacctcagca actcaggcca ggatggtgct gcgctgctgc
420
tccgagttca ttgaggccca cggggtggtg atgggatct accggctctc aggcgtgtct
480
tccaacatcc agaggcttcg gcacgagttt gacagtgaga ggatcccgga gctgtctggc
540
cctgcattcc tgcaggacat ccacagcgtg tcctccctct gcaagctcta cttccgagag
600
cttccgaacc ctctgctcac ctaccagctc tatgggaagt tcagtgaggc catgtcagtg
660
cctggggagg aggagcgtct ggtgcgggtg cacgatgtca tccagcagct gcccccacca
720
cattacagga ccctggagta cctgctgagg cacctggccc gcatggcgag acacagtgcc
780
aacaccagca tgcatgcccg caacctggcc attgtctggg cacccaacct gctacggtcc
840
atggagctgg agtcagtggg aatgggtggc gcggcggcgt ccgggaagt tcgggtgcag
900
tcggtggtgg tggagtttct gctcacccat gtggacgtcc tgttcagcga caccttcacc
960
tccgccggcc tcgaccctgc aggccgctgc ctgctcccca ggcccaagtc ccttgcgggc
1020
agctgcccct ccacccgcct gctgacgctg gaggaagccc aggcacgcac ccagggccgg
1080
```

```
ctggggacgc ccacggagcc cacaactccc aaggccccgg cctcacctgc ggaaaggagg
1140
aaaggggaga gaggggagaa gcagcggaag ccaggggggca gcagctggaa gacgttcttt
1200
gcactgggcc ggggcccccag tgtccctcga aagaagcccc tgccctggct ggggggcacc
1260
cgtgccccac cgcagccttc agcctggcta gatgatggtg atgagctgga cttcagccca
1320
ccccgctgcc tggaggggact ccggggggctg gactttgatc ccttaacctt ccgctgcagc
1380
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1440
gccttcccac ccagggtgac cccccaggcc atctcgcccc ggggggcccac cagccccgcc
1500
tcgcctgctg ccctagacat ctcagagccc ctggctgtat cagtgccacc cgctgtccta
1560
gaactgctgg gggctggggg agcacctgcc tcagccaccc caacaccagc tctcagcccc
1620
ggccggagcc tgcgcccccca tctcataccc ctgctgctgc gaggagccga ggccccgctg
1680
actgacgcct gccagcagga gatgtgcagc aagctccggg gagcccaggg cccactcgca
1740
cgcctcatgg ccctggccct ggctgagcgg gctcagcagg tggccgagca acagagccag
1800
caggagtgtg ggggcacccc acctgcttcc caatcccccct tccaccgctc gctgtctctg
1860
gaggtgggcg gggagcccct gggggacctca gggagtgggc cacctcccaa ctccctagca
1920
cacccgggtg cctgggtccc gggacccccca ccctacttac caaggcaaca aagtgatggg
1980
agcctgctga ggagccagcg gcccatgggg acctcaagga ggggactccg aggccctgcc
2040
caggtcagtg cccagctcag ggcaggtggc gggggcaggg atgcgccaga ggcagcagcc
2100
cagtccccat gttctgtccc ctcacaggtt cctaccccccg gcttcttctc cccagccccc
2160
agggagtgcc tgccaccctt cctcggggtc cccaagccag gcttgtaccc cctgggcccc
2220
ccatccttcc agcccagttc cccagcccca gtctggagga gctctctggg ccccccctgca
2280
ccactcgaca ggggagagaa cctgtactat gagatcgggg caagtgaggg gtcccccctat
2340
tctggcccca cccgctcctg gagtcccttt cgctccatgc ccccgacag gctcaatgcc
2400
tcctacggca tgcttggcca atcacccccca ctccacaggt cccccgactt cctgctcagc
2460
tacccgccag cccccctcctg ctttcccccct gaccaccttg ctactcagc ccccagcac
2520
cctgctcggc gccctacacc gcctgagccc ctctacgtca acctagctct agggcccagg
2580
ggtccctcac ctgcctcttc ctcctcctct tcccctcctg cccaccccccg aagccgttca
2640
gatcccggtc ccccagtccc ccgccttccc cagaaacaac gggcaccctg gggacccccgt
2700
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accccctcata gggtgccggg tccctggggc cctcctgagc ctctcctgct ctacagggca
2760

gccccgccag cctacggaag gggggggcgag ctccaccgag ggtccttgta cagaaatgga
2820

gggcaaagag gggaggggggc tggtccccca ccccccttacc ccactcccag ctggtccctc
2880

cactctgagg gccagacccg aagctactgc tgagcaccag ctgggagggg ccgtccttcc
2940

ttcccttcac cctcactgga tcttggccca accaaatccc ttgtttttgta ttttcttgaa
3000

ccccgaccac taccccaggt ttctaacttt gtaacttgct tctgatgtgg gtccctaacc
3060

tataatctca gcttccctac cctggactga agggtctgcc catccccccca ccacccctcca
3120

tcctgggggc cctcgcacaa atctggggtg ggaggggcta ggctgacccc atcctcctct
3180

ccctccagga gcccccagca tgtcctgacc tgt
3213

<210> 5380
<211> 903
<212> PRT
<213> Homo sapiens

<400> 5380
Met Pro Pro Thr Glu Asp Arg Ser Trp Trp Arg Gly Lys Arg Gly Phe
1   5   10   15
Gln Leu Cys His Gly Leu Val Gly Ser Trp Pro Ala Cys Ser Ala Pro
            20   25   30
Ser Cys Ala Pro Ala Leu Leu Gly Ser Gly Cys Gly Ser Gly Glu Ser
        35   40   45
Cys Asp Arg Gly Cys Leu Ala Ala Ile Leu Ala Ser Thr Ser Ala Thr
    50   55   60
Gln Ala Arg Met Val Leu Arg Cys Cys Ser Glu Phe Ile Glu Ala His
65   70   75   80
Gly Val Val Asp Gly Ile Tyr Arg Leu Ser Gly Val Ser Ser Asn Ile
                85   90   95
Gln Arg Leu Arg His Glu Phe Asp Ser Glu Arg Ile Pro Glu Leu Ser
            100   105   110
Gly Pro Ala Phe Leu Gln Asp Ile His Ser Val Ser Ser Leu Cys Lys
        115   120   125
Leu Tyr Phe Arg Glu Leu Pro Asn Pro Leu Leu Thr Tyr Gln Leu Tyr
    130   135   140
Gly Lys Phe Ser Glu Ala Met Ser Val Pro Gly Glu Glu Glu Arg Leu
145   150   155   160
Val Arg Val His Asp Val Ile Gln Gln Leu Pro Pro Pro His Tyr Arg
                165   170   175
Thr Leu Glu Tyr Leu Leu Arg His Leu Ala Arg Met Ala Arg His Ser
            180   185   190
Ala Asn Thr Ser Met His Ala Arg Asn Leu Ala Ile Val Trp Ala Pro
        195   200   205
Asn Leu Leu Arg Ser Met Glu Leu Glu Ser Val Gly Met Gly Gly Ala
    210   215   220
Ala Ala Phe Arg Glu Val Arg Val Gln Ser Val Val Val Glu Phe Leu

```
225                    230                    235                    240
Leu Thr His Val Asp Val Leu Phe Ser Asp Thr Phe Thr Ser Ala Gly
                    245                    250                    255
Leu Asp Pro Ala Gly Arg Cys Leu Leu Pro Arg Pro Lys Ser Leu Ala
                260                    265                    270
Gly Ser Cys Pro Ser Thr Arg Leu Leu Thr Leu Glu Glu Ala Gln Ala
                275                    280                    285
Arg Thr Gln Gly Arg Leu Gly Thr Pro Thr Glu Pro Thr Thr Pro Lys
        290                    295                    300
Ala Pro Ala Ser Pro Ala Glu Arg Arg Lys Gly Glu Arg Gly Glu Lys
305                    310                    315                    320
Gln Arg Lys Pro Gly Gly Ser Ser Trp Lys Thr Phe Phe Ala Leu Gly
                325                    330                    335
Arg Gly Pro Ser Val Pro Arg Lys Lys Pro Leu Pro Trp Leu Gly Gly
                340                    345                    350
Thr Arg Ala Pro Pro Gln Pro Ser Ala Trp Leu Asp Asp Gly Asp Glu
        355                    360                    365
Leu Asp Phe Ser Pro Pro Arg Cys Leu Glu Gly Leu Arg Gly Leu Asp
        370                    375                    380
Phe Asp Pro Leu Thr Phe Arg Cys Ser Ser Pro Thr Pro Gly Asp Pro
385                    390                    395                    400
Ala Pro Pro Ala Ser Pro Ala Pro Pro Ala Pro Ala Ser Ala Phe Pro
                405                    410                    415
Pro Arg Val Thr Pro Gln Ala Ile Ser Pro Arg Gly Pro Thr Ser Pro
                420                    425                    430
Ala Ser Pro Ala Ala Leu Asp Ile Ser Glu Pro Leu Ala Val Ser Val
        435                ·  440                    445
Pro Pro Ala Val Leu Glu Leu Leu Gly Ala Gly Gly Ala Pro Ala Ser
        450                    455                    460
Ala Thr Pro Thr Pro Ala Leu Ser Pro Gly Arg Ser Leu Arg Pro His
465                    470                    475                    480
Leu Ile Pro Leu Leu Leu Arg Gly Ala Glu Ala Pro Leu Thr Asp Ala
                485                    490                    495
Cys Gln Gln Glu Met Cys Ser Lys Leu Arg Gly Ala Gln Gly Pro Leu
                500                    505                    510
Ala Arg Leu Met Ala Leu Ala Leu Ala Glu Arg Ala Gln Gln Val Ala
        515                    520                    525
Glu Gln Gln Ser Gln Gln Glu Cys Gly Gly Thr Pro Pro Ala Ser Gln
        530                    535                    540
Ser Pro Phe His Arg Ser Leu Ser Leu Glu Val Gly Gly Glu Pro Leu
545                    550                    555                    560
Gly Thr Ser Gly Ser Gly Pro Pro Pro Asn Ser Leu Ala His Pro Gly
                565                    570                    575
Ala Trp Val Pro Gly Pro Pro Pro Tyr Leu Pro Arg Gln Gln Ser Asp
                580                    585                    590
Gly Ser Leu Leu Arg Ser Gln Arg Pro Met Gly Thr Ser Arg Arg Gly
        595                    600                    605
Leu Arg Gly Pro Ala Gln Val Ser Ala Gln Leu Arg Ala Gly Gly Gly
        610                    615                    620
Gly Arg Asp Ala Pro Glu Ala Ala Ala Gln Ser Pro Cys Ser Val Pro
625                    630                    635                    640
Ser Gln Val Pro Thr Pro Gly Phe Phe Ser Pro Ala Pro Arg Glu Cys
                645                    650                    655
Leu Pro Pro Phe Leu Gly Val Pro Lys Pro Gly Leu Tyr Pro Leu Gly
```

```
                    660                   665                   670
Pro Pro Ser Phe Gln Pro Ser Ser Pro Ala Pro Val Trp Arg Ser Ser
            675                   680                   685
Leu Gly Pro Pro Ala Pro Leu Asp Arg Gly Glu Asn Leu Tyr Tyr Glu
        690                   695                   700
Ile Gly Ala Ser Glu Gly Ser Pro Tyr Ser Gly Pro Thr Arg Ser Trp
705                   710                   715                   720
Ser Pro Phe Arg Ser Met Pro Pro Asp Arg Leu Asn Ala Ser Tyr Gly
                725                   730                   735
Met Leu Gly Gln Ser Pro Pro Leu His Arg Ser Pro Asp Phe Leu Leu
            740                   745                   750
Ser Tyr Pro Pro Ala Pro Ser Cys Phe Pro Pro Asp His Leu Gly Tyr
            755                   760                   765
Ser Ala Pro Gln His Pro Ala Arg Arg Pro Thr Pro Pro Glu Pro Leu
        770                   775                   780
Tyr Val Asn Leu Ala Leu Gly Pro Arg Gly Pro Ser Pro Ala Ser Ser
785                   790                   795                   800
Ser Ser Ser Ser Pro Pro Ala His Pro Arg Ser Arg Ser Asp Pro Gly
                805                   810                   815
Pro Pro Val Pro Arg Leu Pro Gln Lys Gln Arg Ala Pro Trp Gly Pro
            820                   825                   830
Arg Thr Pro His Arg Val Pro Gly Pro Trp Gly Pro Pro Glu Pro Leu
            835                   840                   845
Leu Leu Tyr Arg Ala Ala Pro Pro Ala Tyr Gly Arg Gly Gly Glu Leu
        850                   855                   860
His Arg Gly Ser Leu Tyr Arg Asn Gly Gly Gln Arg Gly Glu Gly Ala
865                   870                   875                   880
Gly Pro Pro Pro Pro Tyr Pro Thr Pro Ser Trp Ser Leu His Ser Glu
                885                   890                   895
Gly Gln Thr Arg Ser Tyr Cys
                900
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```
<210> 5381
<211> 1576
<212> DNA
<213> Homo sapiens

<400> 5381
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gtcgtggagg gcagcaacgt ctccggggcc ctgtgcatct cccaggcctg gccgggcatg
120
gccaggacca tctatggcga ccaccagcga tttgtggacg cctacttcaa ggcctaccca
180
ggctattact tcactggaga cggggcttac cgaactgagg gcggctatta ccagatcaca
240
gggcggatgg atgatgtcat caacatcagt ggccaccggc tggggaccgc agagattgag
300
gacgccatcg ccgaccaccc tgcagtacca gaaagtgctg tcattggcta cccccacgac
360
atcaaaggag aagctgcctt tgccttcatt gtggtgaaag atagtgcggg tgactcagat
420
gtggtggtgc aggagctcaa gtccatggtg gccaccaaga tcgccaaata tgctgtgcct
480
```

```
gatgagatcc tggtggtgaa acgtcttcca aaaaccaggt ctgggaaggt catgcggcgg
540
ctcctgagga agatcatcac tagtgaggcc caggagctgg agacactac caccttggag
600
gaccccagca tcatcgcaga gatcctgagt gtctaccaga agtgcaagga caagcaggct
660
gctgctaagt gagctggcac cttgtgggc tcttgggatg ggcgggcacc caagccctgg
720
cttgtccttc ccagaaggta cccctgaggt tggcgtcttc ctacgtccca gaagcagccc
780
ccaccccaca catgacccac accgccctca cgtgaagctg ggctgagagc cctttctccc
840
atccattgga ggtcccagga gtgtcaccca tggagaggct atgcgacatg ctagggctg
900
gttctgccat ctgagtttgg tttcctggaa tgaaaaggca ttgccatctc cattcctctg
960
ccctcttgag ccagcacagg aaggtgaggc cctgggatag cgcgcctgct cagataacac
1020
agagctagtt agctagtagc aaccgtgttt tctccagatc tgtctagata caaaggtcag
1080
aaatcttatt tttatacttt tatattgtgg aagaacagca tgcaacactc acatgtagtg
1140
tgtggattta cttgaacatg ttctttttaa catgtagtta tgaaaatctc cttttttgcc
1200
tctactggtg aggaaacatg aggatcagag gccacatttt taattattgt tagtgtattt
1260
ggaagtctga attggagatg tttgtacctc tgtctaaaca gttcccttga ggacttccaa
1320
gcctccggca tctttttcctg gtgagtgttt ctcctgtgct tggttgtgta taatggagct
1380
aactcctaag cggtggggtg aatgtggccg ccttagttct gaagctactc cagttatgtt
1440
ctgtttcttc aagctgtgat ccagaaagat ttttgtgccc cccagatgct tcttgatagg
1500
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1560
ttgttagagc actaac
1576


<210> 5382
<211> 223
<212> PRT
<213> Homo sapiens

<400> 5382
Xaa Met Ala Met Arg Pro Phe Phe Gly Ile Val Pro Val Leu Met Asp
1               5                   10                  15
Glu Lys Gly Ser Val Val Glu Gly Ser Asn Val Ser Gly Ala Leu Cys
            20                  25                  30
Ile Ser Gln Ala Trp Pro Gly Met Ala Arg Thr Ile Tyr Gly Asp His
        35                  40                  45
Gln Arg Phe Val Asp Ala Tyr Phe Lys Ala Tyr Pro Gly Tyr Tyr Phe
    50                  55                  60
Thr Gly Asp Gly Ala Tyr Arg Thr Glu Gly Gly Tyr Tyr Gln Ile Thr
```

```
  65                  70                  75                  80
Gly Arg Met Asp Asp Val Ile Asn Ile Ser Gly His Arg Leu Gly Thr
                    85                  90                  95
Ala Glu Ile Glu Asp Ala Ile Ala Asp His Pro Ala Val Pro Glu Ser
                100                 105                 110
Ala Val Ile Gly Tyr Pro His Asp Ile Lys Gly Glu Ala Ala Phe Ala
                115                 120                 125
Phe Ile Val Val Lys Asp Ser Ala Gly Asp Ser Asp Val Val Val Gln
    130                 135                 140
Glu Leu Lys Ser Met Val Ala Thr Lys Ile Ala Lys Tyr Ala Val Pro
145                 150                 155                 160
Asp Glu Ile Leu Val Val Lys Arg Leu Pro Lys Thr Arg Ser Gly Lys
                165                 170                 175
Val Met Arg Arg Leu Leu Arg Lys Ile Ile Thr Ser Glu Ala Gln Glu
                180                 185                 190
Leu Gly Asp Thr Thr Thr Leu Glu Asp Pro Ser Ile Ile Ala Glu Ile
            195                 200                 205
Leu Ser Val Tyr Gln Lys Cys Lys Asp Lys Gln Ala Ala Ala Lys
    210                 215                 220
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<210> 5383
<211> 2027
<212> DNA
<213> Homo sapiens

<400> 5383

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720
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840
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1920
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2027

<210> 5384
<211> 508
<212> PRT
<213> Homo sapiens

<400> 5384
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Phe Pro Lys Val Glu Tyr Ile Ala Arg Ala Gly Ala Trp Ala Met Phe
                20   25   30
Leu Asp Arg Pro Gln Gln Trp Leu Gln Leu Val Leu Leu Pro Pro Ala
            35   40   45
Leu Phe Ile Pro Ser Thr Glu Asn Glu Glu Gln Arg Leu Ala Ser Ala

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        50                        55                        60
Arg Ala Val Pro Arg Asn Val Gln Pro Tyr Val Val Tyr Glu Glu Val
65                        70                        75                        80
Thr Asn Val Trp Ile Asn Val His Asp Ile Phe Tyr Pro Phe Pro Gln
                        85                        90                        95
Ser Glu Gly Glu Asp Glu Leu Cys Phe Leu Arg Ala Asn Glu Cys Lys
                        100                       105                       110
Thr Gly Phe Cys His Leu Tyr Lys Val Thr Ala Val Leu Lys Ser Gln
                        115                       120                       125
Gly Tyr Asp Trp Ser Glu Pro Phe Ser Pro Gly Glu Gly Glu Gln Ser
            130                       135                       140
Leu Thr Asn Ala Ile Trp Val Asn Glu Glu Thr Lys Leu Val Tyr Phe
145                       150                       155                       160
Gln Gly Thr Lys Asp Thr Pro Leu Glu His His Leu Tyr Val Val Ser
                        165                       170                       175
Tyr Glu Ala Ala Gly Glu Ile Val Arg Leu Thr Thr Pro Gly Phe Ser
                        180                       185                       190
His Ser Cys Ser Met Ser Gln Asn Phe Asp Met Phe Val Ser His Tyr
                        195                       200                       205
Ser Ser Val Ser Thr Pro Pro Cys Val His Val Tyr Lys Leu Ser Gly
            210                       215                       220
Pro Asp Asp Asp Pro Leu His Lys Gln Pro Arg Phe Trp Ala Ser Met
225                       230                       235                       240
Met Glu Ala Ala Lys Ile Phe His Phe His Thr Arg Ser Asp Val Arg
                        245                       250                       255
Leu Tyr Gly Met Ile Tyr Lys Pro His Ala Leu Gln Pro Gly Lys Lys
                        260                       265                       270
His Pro Thr Val Leu Phe Val Tyr Gly Gly Pro Gln Val Gln Leu Val
                        275                       280                       285
Asn Asn Ser Phe Lys Gly Ile Lys Tyr Leu Arg Leu Asn Thr Leu Ala
            290                       295                       300
Ser Leu Gly Tyr Ala Val Val Val Ile Asp Gly Arg Gly Ser Cys Gln
305                       310                       315                       320
Arg Gly Leu Arg Phe Glu Gly Ala Leu Lys Asn Gln Met Gly Gln Val
                        325                       330                       335
Glu Ile Glu Asp Gln Val Glu Gly Leu Gln Phe Val Ala Glu Lys Tyr
                        340                       345                       350
Gly Phe Ile Asp Leu Ser Arg Val Ala Ile His Gly Trp Ser Tyr Gly
            355                       360                       365
Gly Phe Leu Ser Leu Met Gly Leu Ile His Lys Pro Gln Val Phe Lys
            370                       375                       380
Val Ala Ile Ala Gly Ala Pro Val Thr Val Trp Met Ala Tyr Asp Thr
385                       390                       395                       400
Gly Tyr Thr Glu Arg Tyr Met Asp Val Pro Glu Asn Asn Gln His Gly
                        405                       410                       415
Tyr Glu Ala Gly Ser Val Ala Leu His Val Glu Lys Leu Pro Asn Glu
                        420                       425                       430
Pro Asn Arg Leu Leu Ile Leu His Gly Phe Leu Asp Glu Asn Val His
            435                       440                       445
Phe Phe His Thr Asn Phe Leu Val Ser Gln Leu Ile Arg Ala Gly Lys
            450                       455                       460
Pro Tyr Gln Leu Gln Val Ala Leu Pro Pro Val Ser Pro Gln Ile Tyr
465                       470                       475                       480
Pro Asn Glu Arg His Ser Ile Arg Cys Pro Glu Ser Gly Glu His Tyr
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Glu Val Thr Leu Leu His Phe Leu Gln Glu Tyr Leu
                500                      505


<210> 5385
<211> 314
<212> DNA
<213> Homo sapiens


<400> 5385
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120
cctccccggg cccagccgct gggcagaggg ctgcatgctg gctggctggc caggctgggg
180
cagcctggcc tcctcggccc ctacgctgca cccaccttcc acttcctgga gatgcaccca
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300
ggtcccaacg catg
314


<210> 5386
<211> 100
<212> PRT
<213> Homo sapiens


<400> 5386
Met Gly Thr Pro Ala Gly Thr Gly Trp His Phe Phe Phe Pro Cys Ser
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Thr Trp Ser Ile Cys Cys Ser Trp Asn Arg Lys Glu Arg Ser Lys Lys
            20                  25                  30
Ser Val Pro Ser Pro Pro Arg Ala Gln Pro Leu Gly Arg Gly Leu His
            35                  40                  45
Ala Gly Trp Leu Ala Arg Leu Gly Gln Pro Gly Leu Leu Gly Pro Tyr
        50                  55                  60
Ala Ala Pro Thr Phe His Phe Leu Glu Met His Pro His Leu Gln Glu
65                  70                  75                  80
Asn Cys Phe Arg Lys Cys Leu Gln His Ser Arg Glu Trp Asn Lys Gln
                85                  90                  95
Gly Pro Asn Ala
            100


<210> 5387
<211> 375
<212> DNA
<213> Homo sapiens


<400> 5387
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accgccacgc accagtccat gggcaactgg tccatgttca cctggtgctt ctgcttctcc
120
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atgaccctga tcatcctcat cgtggagctg tgcgggctcc aggcccgctt ccccctgtct
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tggcgcaact tccccatcac cttcgcctgc tatgcggccc tcttctgcct ctcggcctcc
240
atcatctacc ccaccaccta tgtccagttc ctgtcccacg gccgttcgcg ggaccacgcc
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acccgggccc gggcc
375
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<210> 5388
<211> 125
<212> PRT
<213> Homo sapiens

<400> 5388

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Xaa Asp Ser Pro Arg Phe Ser Arg Met Ala Met Ala Ala Arg Met Lys
1               5                   10                  15
Gln Met Ala Tyr Thr Ala Thr His Gln Ser Met Gly Asn Trp Ser Met
              20                  25                  30
Phe Thr Trp Cys Phe Cys Phe Ser Met Thr Leu Ile Ile Leu Ile Val
          35                  40                  45
Glu Leu Cys Gly Leu Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe
      50                  55                  60
Pro Ile Thr Phe Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser
65                  70                  75                  80
Ile Ile Tyr Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser
                  85                  90                  95
Arg Asp His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val
              100                 105                 110
Ala Tyr Ala Thr Glu Met Ala Trp Thr Arg Ala Arg Ala
          115                 120                 125
```

<210> 5389
<211> 1711
<212> DNA
<213> Homo sapiens

<400> 5389

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120
aagcgcggag gatccggcga gaagaagcgt cagggagcct cggcggtgtc cccgggggtcc
180
gccgaagcca cccggccgcc ggctggggcc cggggtggtg aggaagtgct ccgaggcctc
240
gccgaggcct agcgccggct ttgtgtccga ggcggcggcg gcggcggggg gaggcggagc
300
cggggcggc ctgcgggaag gcctctcctc cgccgaccgc gcgttttcgg cctaggccgc
360
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420
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gcctgggcct ggggaagctg acgccggtcg tccggaagcc aggaggaggc gtgaggccgc
480
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600
tggggtcgct cggactctta acgtgtggac tgaccgctac tgactgcacc gccaatcccc
660
ccgtctctgc cggccccctta gcatgagcga gggggaccca gccgggtgac attgtgcccg
720
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780
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840
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900
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1020
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1380
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1620
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1680
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1711


<210> 5390
<211> 118
<212> PRT
<213> Homo sapiens

<400> 5390
Met Ser Cys Val His Tyr Lys Phe Ser Ser Lys Leu Asn Tyr Asp Thr
1               5                   10                  15
Val Thr Phe Asp Gly Leu His Ile Ser Leu Cys Asp Leu Lys Lys Gln
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```
          20                      25                      30
Ile Met Gly Arg Glu Lys Leu Lys Ala Ala Asp Cys Asp Leu Gln Ile
          35                      40                      45
Thr Asn Ala Gln Thr Lys Glu Glu Tyr Thr Asp Asp Asn Ala Leu Ile
          50                      55                      60
Pro Lys Asn Ser Ser Val Ile Val Arg Arg Ile Pro Ile Gly Gly Val
65                      70                      75                      80
Lys Ser Thr Ser Lys Thr Tyr Val Ile Ser Arg Thr Glu Pro Ala Met
                  85                      90                      95
Ala Thr Thr Lys Ala Val Cys Lys Asn Thr Ile Ser His Phe Phe Tyr
                  100                     105                     110
Thr Leu Leu Leu Pro Leu
          115
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<210> 5391
<211> 797
<212> DNA
<213> Homo sapiens
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<400> 5391
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120
aaacagtaca aattattatt attattatta ttgagacagg gtcttgctct gtcattcagg
180
ctaaagtgca gtggcacaat caagggtcac tgcaacctca gcctcaacct cctgggctca
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420
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480
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600
aagggccctg cctctggccc ctcctggact tgtggctgcc ctttagatgg gaatccactt
660
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780
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797
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<210> 5392
<211> 55
<212> PRT
<213> Homo sapiens
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<400> 5392
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Leu Leu Arg Gln Gly Leu Ala Leu Ser Phe Arg Leu Lys Cys Ser Gly
            20   25   30
Thr Ile Lys Gly His Cys Asn Leu Ser Leu Asn Leu Leu Gly Ser Ser
         35   40   45
Asn Pro Pro Ala Ser Ala Ser
    50   55

<210> 5393
<211> 4837
<212> DNA
<213> Homo sapiens

<400> 5393
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1140

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2760
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4200
cccctgaaga gtgcaggagg gagaacagtt gagaagtgtt ttgtgtggaa atgtgtccaa
4260
gaggcgtcag ctgctgcaca gagaactcac tgcccagaac actgcgcttg gggaacagac
4320
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4380
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agggacagca tgactcgctt tgtcgatgaa aagcacgaag ttgtcagcac agaacctggc
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4500
tcctgaagaa ctgggctatg tccctgaggc tcctctctac cgtctgactg tggggtctgg
4560
ggaacaggca tttaaaccag gctgctgccc tggggagtgc ccactggacg ccagggtgcc
4620
ccatagggac agggtcacaa agccctgggg cttcccctgc cagtcctggt gaggacagtg
4680
tggtcactat ctcagagaga cgaaaaatga atattctgtc atttcagact aaactactca
4740
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4800
ttcaagggtt gttacatggg taaattggat cataggg
4837

<210> 5394
<211> 354
<212> PRT
<213> Homo sapiens

<400> 5394
Leu Tyr Asp Gln Ala Leu Leu Gly Ile Leu Gln His Val Gly Asn Val
 1   5   10   15
Gln Asp Phe Leu Arg Val Leu Phe Gly Phe Leu Tyr Arg Lys Thr Asp
            20   25   30
Phe Tyr Arg Leu Leu Arg His Pro Ser Asp Arg Met Gly Phe Pro Pro
        35   40   45
Gly Ala Ala Gln Ala Leu Val Leu Gln Val Phe Lys Thr Phe Asp His
    50   55   60
Met Ala Arg Gln Asp Asp Glu Lys Arg Arg Gln Glu Leu Glu Glu Lys
65   70   75   80
Ile Arg Arg Lys Glu Glu Glu Ala Lys Thr Val Ser Ala Ala Ala
                85   90   95
Ala Glu Lys Glu Pro Val Pro Val Pro Val Gln Glu Ile Glu Ile Asp
            100   105   110
Ser Thr Thr Glu Leu Asp Gly His Gln Glu Val Glu Lys Val Gln Pro
            115   120   125
Pro Gly Pro Val Lys Glu Met Ala His Gly Ser Gln Glu Ala Glu Ala
        130   135   140
Pro Gly Ala Val Ala Gly Ala Ala Glu Val Pro Arg Glu Pro Pro Ile
145   150   155   160
Leu Pro Arg Ile Gln Glu Gln Phe Gln Lys Asn Pro Asp Ser Tyr Asn
                165   170   175
Gly Ala Val Arg Glu Asn Tyr Thr Trp Ser Gln Asp Tyr Thr Asp Leu
            180   185   190
Glu Val Arg Val Pro Val Pro Lys His Val Val Lys Gly Lys Gln Val
            195   200   205
Ser Val Ala Leu Ser Ser Ser Ser Ile Arg Val Ala Met Leu Glu Glu
        210   215   220
Asn Gly Glu Arg Val Leu Met Glu Gly Lys Leu Thr His Lys Ile Asn
225   230   235   240
Thr Glu Ser Ser Leu Trp Ser Leu Glu Pro Gly Lys Cys Val Leu Val

```
                         245                  250                  255
Asn Leu Ser Lys Val Gly Glu Tyr Trp Trp Asn Ala Ile Leu Glu Gly
                260                  265                  270
Glu Glu Pro Ile Asp Ile Asp Lys Ile Asn Lys Glu Arg Ser Met Ala
            275                  280                  285
Thr Val Asp Glu Glu Glu Gln Ala Val Leu Asp Arg Leu Thr Phe Asp
        290                  295                  300
Tyr His Gln Lys Leu Gln Gly Lys Pro Gln Ser His Glu Leu Lys Val
305                  310                  315                  320
His Glu Met Leu Lys Lys Gly Trp Asp Ala Glu Gly Ser Pro Phe Arg
                325                  330                  335
Gly Gln Arg Phe Asp Pro Ala Met Phe Asn Ile Ser Pro Gly Ala Val
                340                  345                  350
Gln Phe
```

```
<210> 5395
<211> 3711
<212> DNA
<213> Homo sapiens

<400> 5395
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120
atttcagtgt ctgtagacag gatggaatca tctccattta atagacggca atggacctca
180
ctatcattga gggtaacagc caaagaactt tctcttgtca acaagaacaa gtcatcggct
240
attgtggaaa tattctccaa gtaccagaaa gcagctgaag aaacaaacat ggagaagaag
300
agaagtaaca ccgaaaatct ctcccagcac tttagaaagg ggaccctgac tgtgttaaag
360
aagaagtggg agaacccagg gctgggagca gagtctcaca cagactctct acggaacagc
420
agcactgaga ttaggcacag agcagaccat cctcctgctg aagtgacaag ccacgctgct
480
tctggagcca agctgacca agaagaacaa atccacccca gatctagact caggtcacct
540
cctgaagccc tcgttcaggg tcgatatccc cacatcaagg acggtgagga tcttaaagac
600
cactcaacag aaagtaaaaa aatggaaaat tgtctaggag aatccaggca tgaagtagaa
660
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720
ctgaacaggc ttaagatgat gtttgagaaa ggtgaaccaa ctcaaactaa gattctccgg
780
gcccaaagcc gaagtgcaag tggaaggaag atctctgaaa acagctattc tctagatgac
840
ctggaaatag cccaggtca gttgtcatct tctacatttg actcggagaa aaatgagagt
900
agacgaaatc tggaacttcc acgcctctca gaaacctcta taaaggatcg aatggccaag
960
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taccaggcag ctgtgtccaa acaaagcagc tcaaccaact atacaaatga gctgaaagcc
1020
agtggtggcg aaatcaaaat tcataaaatg gagcaaaagg agaatgtgcc cccaggtcct
1080
gaggtctgca tcacccatca ggaagggga aagatttctg caaatgagaa tagcctggca
1140
gtccgttcca cccctgccga agatgactcc ccaggtgact cccaggttaa gagtgaggtt
1200
caacagcctg tccatcccaa gccactaagt ccagattcca gagcctccag tctttctgaa
1260
agttctcctc ccaaagcaat gaagaagttt caggcacctg caagagagac ctgcgtggaa
1320
tgtcagaaga cagtctatcc aatggagcgt ctcttggcca accagcaggt gtttcacatc
1380
agctgcttcc gttgctccta ttgcaacaac aaactcagtc taggaacata tgcatcttta
1440
catggaagaa tctattgtaa gcctcacttc aatcaactct ttaaatctaa gggcaactat
1500
gatgaaggct ttgggcacag accacacaag gatctatggg caagcaaaaa tgaaaacgaa
1560
gagattttgg agagaccagc ccagcttgca aatgcaaggg agacccctca cagcccaggg
1620
gtagaagatg cccctattgc taaggtgggt gtcctggctg caagtatgga agccaaggcc
1680
tcctctcagc aggagaagga agacaagcca gctgaaacca agaagctgag gatcgcctgg
1740
ccaccccca ctgaacttgg aagttcagga agtgccttgg aggaagggat caaaatgtca
1800
aagcccaaat ggcctcctga agacgaaatc agcaagcccg aagttcctga ggatgtcgat
1860
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1920
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1980
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2040
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2100
tggcaaaaca agaatctaa aggagagaca gggaagagaa gtaaggaagg tcatagtttg
2160
gagatggaga atgagaatct tgtagaaaat ggtgcagact ccgatgaaga tgataacagc
2220
ttcctcaaac aacaatctcc acaagaaccc aagtctctga attggtcgag ttttgtagac
2280
aacacctttg ctgaagaatt cactactcag aatcagaaat cccaggatgt ggaactctgg
2340
gagggagaag tggtcaaaga gctctctgtg gaagaacaga taaagagaaa tcggtattat
2400
gatgaggatg aggatgaaga gtgacaaatt gcaatgatgc tgggccttaa attcatgtta
2460
gtgttagcga gccactgccc tttgtcaaaa tgtgatgcac ataagcaggt atcccagcat
2520
gaaatgtaat ttacttggaa gtaactttgg aaaagaattc cttcttaaaa tcaaaaacaa
2580
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aacaaaaaaa cacaaaaaac acattctaaa tactagagat aactttactt aaattcttca
2640
ttttagcagt gatgatatgc ataagtgctg taaggcttgt aactggggaa atattccacc
2700
tgataatagc ccagattcta ctgtattccc aaaaggcaat attaaggtag atagatgatt
2760
agtagtatat tgttacacac tattttggaa ttagagaaca tacagaagga atttaggggc
2820
ttaaacatta cgactgaatg cactttagta taaagggcac agtttgtata tttttaaatg
2880
aataccaatt taattttta gtatttacct gttaagagat tatttagtct ttaaattttt
2940
taggttaatt ttcttgctgt gatatatatg aggaatttac tactttatgt cctgctctct
3000
aaactacatc ctgaactcga cgtcctgagg tataatacaa cagagcactt tttgaggcaa
3060
ttgaaaaacc aacctacact cttcggtgct tagagagatc tgctgtctcc caaataagct
3120
tttgtatctg ccagtgaatt tactgtactc caaatgattg ctttcttttc tggtgatatc
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3300
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3360
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3420
tcagggtgaa attaaaccaa ctataggcct ttttcttggg atgattttct agtcttaagg
3480
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3540
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3600
ttagctttaa tattttttag agatgtaaaa cattctgctt tcttagtctt acctagtctg
3660
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3711
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```
<210> 5396
<211> 760
<212> PRT
<213> Homo sapiens
```

```
<400> 5396
Met Glu Ser Ser Pro Phe Asn Arg Arg Gln Trp Thr Ser Leu Ser Leu
1               5                   10                  15
Arg Val Thr Ala Lys Glu Leu Ser Leu Val Asn Lys Asn Lys Ser Ser
            20                  25                  30
Ala Ile Val Glu Ile Phe Ser Lys Tyr Gln Lys Ala Ala Glu Glu Thr
        35                  40                  45
Asn Met Glu Lys Lys Arg Ser Asn Thr Glu Asn Leu Ser Gln His Phe
    50                  55                  60
Arg Lys Gly Thr Leu Thr Val Leu Lys Lys Lys Trp Glu Asn Pro Gly
```

```
65                      70              75                  80
Leu Gly Ala Glu Ser His Thr Asp Ser Leu Arg Asn Ser Ser Thr Glu
                85                  90                  95
Ile Arg His Arg Ala Asp His Pro Pro Ala Glu Val Thr Ser His Ala
            100                 105                 110
Ala Ser Gly Ala Lys Ala Asp Gln Glu Glu Gln Ile His Pro Arg Ser
            115                 120                 125
Arg Leu Arg Ser Pro Pro Glu Ala Leu Val Gln Gly Arg Tyr Pro His
        130                 135                 140
Ile Lys Asp Gly Glu Asp Leu Lys Asp His Ser Thr Glu Ser Lys Lys
145                 150                 155                 160
Met Glu Asn Cys Leu Gly Glu Ser Arg His Glu Val Glu Lys Ser Glu
                165                 170                 175
Ile Ser Glu Asn Thr Asp Ala Ser Gly Lys Ile Glu Lys Tyr Asn Val
                180                 185                 190
Pro Leu Asn Arg Leu Lys Met Met Phe Glu Lys Gly Glu Pro Thr Gln
            195                 200                 205
Thr Lys Ile Leu Arg Ala Gln Ser Arg Ser Ala Ser Gly Arg Lys Ile
        210                 215                 220
Ser Glu Asn Ser Tyr Ser Leu Asp Asp Leu Glu Ile Gly Pro Gly Gln
225                 230                 235                 240
Leu Ser Ser Ser Thr Phe Asp Ser Glu Lys Asn Glu Ser Arg Arg Asn
                245                 250                 255
Leu Glu Leu Pro Arg Leu Ser Glu Thr Ser Ile Lys Asp Arg Met Ala
            260                 265                 270
Lys Tyr Gln Ala Ala Val Ser Lys Gln Ser Ser Ser Thr Asn Tyr Thr
        275                 280                 285
Asn Glu Leu Lys Ala Ser Gly Gly Glu Ile Lys Ile His Lys Met Glu
        290                 295                 300
Gln Lys Glu Asn Val Pro Pro Gly Pro Glu Val Cys Ile Thr His Gln
305                 310                 315                 320
Glu Gly Glu Lys Ile Ser Ala Asn Glu Asn Ser Leu Ala Val Arg Ser
                325                 330                 335
Thr Pro Ala Glu Asp Asp Ser Pro Gly Asp Ser Gln Val Lys Ser Glu
            340                 345                 350
Val Gln Gln Pro Val His Pro Lys Pro Leu Ser Pro Asp Ser Arg Ala
        355                 360                 365
Ser Ser Leu Ser Glu Ser Ser Pro Pro Lys Ala Met Lys Lys Phe Gln
    370                 375                 380
Ala Pro Ala Arg Glu Thr Cys Val Glu Cys Gln Lys Thr Val Tyr Pro
385                 390                 395                 400
Met Glu Arg Leu Leu Ala Asn Gln Gln Val Phe His Ile Ser Cys Phe
                405                 410                 415
Arg Cys Ser Tyr Cys Asn Asn Lys Leu Ser Leu Gly Thr Tyr Ala Ser
            420                 425                 430
Leu His Gly Arg Ile Tyr Cys Lys Pro His Phe Asn Gln Leu Phe Lys
        435                 440                 445
Ser Lys Gly Asn Tyr Asp Glu Gly Phe Gly His Arg Pro His Lys Asp
    450                 455                 460
Leu Trp Ala Ser Lys Asn Glu Asn Glu Glu Ile Leu Glu Arg Pro Ala
465                 470                 475                 480
Gln Leu Ala Asn Ala Arg Glu Thr Pro His Ser Pro Gly Val Glu Asp
                485                 490                 495
Ala Pro Ile Ala Lys Val Gly Val Leu Ala Ala Ser Met Glu Ala Lys
```

```
                500                    505                    510
Ala Ser Ser Gln Gln Glu Lys Glu Asp Lys Pro Ala Glu Thr Lys Lys
        515                    520                    525
Leu Arg Ile Ala Trp Pro Pro Pro Thr Glu Leu Gly Ser Ser Gly Ser
        530                    535                    540
Ala Leu Glu Glu Gly Ile Lys Met Ser Lys Pro Lys Trp Pro Pro Glu
545                    550                    555                    560
Asp Glu Ile Ser Lys Pro Glu Val Pro Glu Asp Val Asp Leu Asp Leu
                565                    570                    575
Lys Lys Leu Arg Arg Ser Ser Ser Leu Lys Glu Arg Ser Arg Pro Phe
                580                    585                    590
Thr Val Ala Ala Ser Phe Gln Ser Thr Ser Val Lys Ser Pro Lys Thr
        595                    600                    605
Val Ser Pro Pro Ile Arg Lys Gly Trp Ser Met Ser Glu Gln Ser Glu
        610                    615                    620
Glu Ser Val Gly Gly Arg Val Ala Glu Arg Lys Gln Val Glu Asn Ala
625                    630                    635                    640
Lys Ala Ser Lys Lys Asn Gly Asn Val Gly Lys Thr Thr Trp Gln Asn
                645                    650                    655
Lys Glu Ser Lys Gly Glu Thr Gly Lys Arg Ser Lys Glu Gly His Ser
                660                    665                    670
Leu Glu Met Glu Asn Glu Asn Leu Val Glu Asn Gly Ala Asp Ser Asp
        675                    680                    685
Glu Asp Asp Asn Ser Phe Leu Lys Gln Gln Ser Pro Gln Glu Pro Lys
        690                    695                    700
Ser Leu Asn Trp Ser Ser Phe Val Asp Asn Thr Phe Ala Glu Glu Phe
705                    710                    715                    720
Thr Thr Gln Asn Gln Lys Ser Gln Asp Val Glu Leu Trp Glu Gly Glu
                725                    730                    735
Val Val Lys Glu Leu Ser Val Glu Glu Gln Ile Lys Arg Asn Arg Tyr
        740                    745                    750
Tyr Asp Glu Asp Glu Asp Glu Glu
        755                    760
```

```
<210> 5397
<211> 561
<212> DNA
<213> Homo sapiens

<400> 5397
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ttagggtaag  ggttagggca  agcattagca  gcaggggcat  ggccctggga  agcacctgga
120
ccccagaaca  taagacagga  gggagagatg  ccatccattc  agcgggcact  tatgcccacg
180
accagctgag  ccagaccagc  attcccattt  caccacccct  tactcctcaa  gatgcaaatg
240
aagctcaggg  ctgggcggaa  gctggcaggg  ctgtccacag  ggaggacccc  cgtgtgtctc
300
tcgggctgcc  caggtggctc  tgtccaccct  tctgtctggg  aggctcctta  aggctgggga
360
gggcccagag  ggaaggagat  cctgaggggc  tggcagattc  aggccctccc  tgcgagctga
420
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4580

.

```
ggtttgaaga ggagagcaga ccacccagag tagtgggaga aagcaccggc agaaaagctg
480
gcatatccac cgagggcctc tctgcttctt ttgacctttt tcagagtttc agagttatga
540
accaaatcgc cttcatgaga g
561
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```
<210> 5398
<211> 154
<212> PRT
<213> Homo sapiens
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```
<400> 5398
Met Ala Leu Gly Ser Thr Trp Thr Pro Glu His Lys Thr Gly Gly Arg
  1               5                   10                  15
Asp Ala Ile His Ser Ala Gly Thr Tyr Ala His Asp Gln Leu Ser Gln
             20                  25                  30
Thr Ser Ile Pro Ile Ser Pro Pro Leu Thr Pro Gln Asp Ala Asn Glu
         35                  40                  45
Ala Gln Gly Trp Ala Glu Ala Gly Arg Ala Val His Arg Glu Asp Pro
     50                  55                  60
Arg Val Ser Leu Gly Leu Pro Arg Trp Leu Cys Pro Pro Phe Cys Leu
65                  70                  75                  80
Gly Gly Ser Leu Arg Leu Gly Arg Ala Gln Arg Glu Gly Asp Pro Glu
                 85                  90                  95
Gly Leu Ala Asp Ser Gly Pro Pro Cys Glu Leu Arg Phe Glu Glu Glu
             100                 105                 110
Ser Arg Pro Pro Arg Val Val Gly Glu Ser Thr Gly Arg Lys Ala Gly
         115                 120                 125
Ile Ser Thr Glu Gly Leu Ser Ala Ser Phe Asp Leu Phe Gln Ser Phe
     130                 135                 140
Arg Val Met Asn Gln Ile Ala Phe Met Arg
145                 150
```

```
<210> 5399
<211> 835
<212> DNA
<213> Homo sapiens
```

```
<400> 5399
ncggccgcgc aacaaaggag tcacccggcg atgagccccg gcacccccgg accgaccatg
60
ggcagatccc agggcagccc aatggatcca atggtgatga agagacctca gttgtatggc
120
atgggcagta accctcattc tcagcctcag cagagcagtc cgtacccagg aggttcctat
180
ggccctccag gcccacagcg gtatccaatt ggcatccagg gtcggactcc cggggccatg
240
gccggaatgc agtaccctca gcagcagatg ccacctcagt atggacagca aggtgtgagt
300
ggttactgcc agcagggcca acagccatat tacagccagc agccgcagcc cccgcacctc
360
ccacccccagg cgcagtatct gccgtcccag tcccagcaga ggtaccagcc gcagcaggac
420
```

atgtctcagg aaggctatgg aactagatct caacctcctc tggcccccgg aaaacctaac
480
catgaagact tgaacttaat acagcaagaa agaccatcaa gtttaccagt aagacattat
540
tgtgctgatt tggaaatgta atgagttaaa gacttttaga aagagctgtt gtttttgttt
600
gttctacttt atattatgac atgattgaga agtttctaga cttcaggttt attttgtggt
660
caattttca aggtttacct tttaggagct ctgtagtcct ggataagtct atttcatgtg
720
tatatatctc tgttgcagag tgtagacatc agttggaagg ttttatgcgg ctggtcgatt
780
ttgtgtgcag gtggttattg ctgccaaaaa gcaacagcct aaagaaagct caact
835

<210> 5400
<211> 186
<212> PRT
<213> Homo sapiens

<400> 5400
Xaa Ala Ala Gln Gln Arg Ser His Pro Ala Met Ser Pro Gly Thr Pro
  1   5   10   15
Gly Pro Thr Met Gly Arg Ser Gln Gly Ser Pro Met Asp Pro Met Val
             20   25   30
Met Lys Arg Pro Gln Leu Tyr Gly Met Gly Ser Asn Pro His Ser Gln
         35   40   45
Pro Gln Gln Ser Ser Pro Tyr Pro Gly Gly Ser Tyr Gly Pro Pro Gly
     50   55   60
Pro Gln Arg Tyr Pro Ile Gly Ile Gln Gly Arg Thr Pro Gly Ala Met
 65   70   75   80
Ala Gly Met Gln Tyr Pro Gln Gln Gln Met Pro Pro Gln Tyr Gly Gln
                 85   90   95
Gln Gly Val Ser Gly Tyr Cys Gln Gln Gly Gln Gln Pro Tyr Tyr Ser
             100   105   110
Gln Gln Pro Gln Pro Pro His Leu Pro Pro Gln Ala Gln Tyr Leu Pro
         115   120   125
Ser Gln Ser Gln Gln Arg Tyr Gln Pro Gln Gln Asp Met Ser Gln Glu
     130   135   140
Gly Tyr Gly Thr Arg Ser Gln Pro Pro Leu Ala Pro Gly Lys Pro Asn
145   150   155   160
His Glu Asp Leu Asn Leu Ile Gln Gln Glu Arg Pro Ser Ser Leu Pro
                 165   170   175
Val Arg His Tyr Cys Ala Asp Leu Glu Met
             180   185

<210> 5401
<211> 2674
<212> DNA
<213> Homo sapiens

<400> 5401
nccctttcaa aagaaggtgc ccccgccctt ggcccgtggg taacgccatt taaggcccgg
60

                              4582

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120
atttcagaaa gtatggatat actcttcaga ataagaggag gccttgattt ggctttttcag
180
ctagctactc ctaatgaaat ttttctcaag aaggcactga aacatgtgtt gagtgacctg
240
tcaactaagc tgtcttcaaa cgcccttgtg ttcagaattt gccacagttc agtgtatata
300
tggcctagca gtgacataaa caccattcct ggagaactga ctgatgcttc tgcttgtaag
360
aacatactgc gctttattca atttgagcca gaagaagata taaaagaaa attcatgaga
420
aagaaggaca aaagttatc agacatgcat caaatagtaa atatagatct tatgctggaa
480
atgtcaacct ccctggcagc tgtaacgccc atcattgaaa gggaaagcgg aggacaccat
540
tatgttaata tgactttacc tgtcgatgca gttatatctg ttgctccaga agaaacatgg
600
ggaaaagttc gtaagctcct ggttgatgca attcataatc aactaactga catggaaaaa
660
tgtattttga aatatatgaa aagaacatct attgtggtcc ctgaaccact gcactttta
720
ttaccaggga aaaaaaatct tgtaacaatt tcatatcctt caggaatacc agatggccag
780
ctgcaggcct ataggaagga gttacatgat cttttcaatc tgcctcacga cagaccctat
840
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900
aatccacata cttaccttaa tccacctaac atggagactg gtatgattta tgtggtccag
960
ggcatatatg gctatcatca ttatatgcag gatcgcatag atgacaatgg ctggggctgt
1020
gcttatcgat ctctgcagac tatctgctct tggttcaaac atcagggata cacagagagg
1080
tccattccaa cacacagaga aattcagcag gctctagtcg atgccgggga caaaccagca
1140
acatttgtcg gatcgcggca atggattgga tctattgagg tgcagctggt actaaaccaa
1200
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1260
ggacgggaac tggctaatca tttccaaagt gaaggaactc cagttatgat cggggggagga
1320
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1380
ctgattctag atccacatta taccggtgct gaagacctgc aagttatttt ggaaaagggc
1440
tggtgcggat ggaagggccc agatttttgg aacaaggatg catactataa cttatgtctt
1500
cctcagcgac caaatatgat ttaaaatatc ttggagtcaa agactgcagt agagtggtat
1560
tataaatttg tgaataaaga atcagtttaa ttttttcacat taaatcctgg ttctagtttg
1620
accatttaaa ttatgacctt tttcaaaggt tgtaaatact gcacggagaa tgtattttta
1680
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gacgttcctt taataactta aaagacaaag catacacaac cagcatatta taggcatgta
1740
aatacatgtg ttcttaaatg gatcttcact tggaagaaag tttttcgtcc ttctcagaag
1800
gagattagac acaacatatg gtaaagccaa aagcaggagc ttatagattt gcatgaaatg
1860
aaggcgttct tcagacttct tcataaccca cgtgacatct gtttttaaaa acacgttaac
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1980
ttggtctcta gactctggta agtataacca gtactaaaat gttaatgaga atgaaacaat
2040
actactagaa atacgagtgt cagtattaaa tggaataata aatgctatgc aaacaagaga
2100
tcactgcggg aggaaaaaag cagcagctct gagttactta ccagcacttc cttttcccac
2160
tggtattttc tacacttccg agactccgtt tctgtctgag cacggcaaca caatcattcc
2220
tgtcagggtg ttcacttgct tttattgtct gcatacattt aattgttgta agaaacttgg
2280
cacagtctgg aaatccacat gaccaagcga gatcttcagc tgtttgcccg ttcttattac
2340
ataaactgaa aacaggataa aaacggagtg aaatgaaaca ttgaacttaa gtcttttttt
2400
tatatcttac aagggaattt tgggctcata caaatgttgg ttgcagaaca gaagaggtaa
2460
aggatgcata aggaaattgc atttttggtc actattgtat cctcagcaac taacagaatc
2520
cagcatagag cgggcattcc agttctgaat gaatgttaga attatctgat gtttaataca
2580
gtgtatgagt acccaaaggt agtcaatggg aactatagaa tgggttttcc tgaaccgaaa
2640
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2674
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<210> 5402
<211> 507
<212> PRT
<213> Homo sapiens
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<400> 5402
Xaa Leu Ser Lys Glu Gly Ala Pro Ala Leu Gly Pro Trp Val Thr Pro
 1               5                  10                  15
Phe Lys Ala Arg Pro Arg Glu Phe Trp Ala Arg Cys Lys Arg Pro Cys
            20                  25                  30
Pro Arg His Val Ala Asp Met Val Ile Ser Glu Ser Met Asp Ile Leu
        35                  40                  45
Phe Arg Ile Arg Gly Gly Leu Asp Leu Ala Phe Gln Leu Ala Thr Pro
    50                  55                  60
Asn Glu Ile Phe Leu Lys Lys Ala Leu Lys His Val Leu Ser Asp Leu
65                  70                  75                  80
Ser Thr Lys Leu Ser Ser Asn Ala Leu Val Phe Arg Ile Cys His Ser
                85                  90                  95
Ser Val Tyr Ile Trp Pro Ser Ser Asp Ile Asn Thr Ile Pro Gly Glu
```

4584

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                    100                      105                      110
Leu Thr Asp Ala Ser Ala Cys Lys Asn Ile Leu Arg Phe Ile Gln Phe
        115                      120                      125
Glu Pro Glu Glu Asp Ile Lys Arg Lys Phe Met Arg Lys Lys Asp Lys
    130                      135                      140
Lys Leu Ser Asp Met His Gln Ile Val Asn Ile Asp Leu Met Leu Glu
145                      150                      155                      160
Met Ser Thr Ser Leu Ala Ala Val Thr Pro Ile Ile Glu Arg Glu Ser
                    165                      170                      175
Gly Gly His His Tyr Val Asn Met Thr Leu Pro Val Asp Ala Val Ile
                    180                      185                      190
Ser Val Ala Pro Glu Glu Thr Trp Gly Lys Val Arg Lys Leu Leu Val
        195                      200                      205
Asp Ala Ile His Asn Gln Leu Thr Asp Met Glu Lys Cys Ile Leu Lys
    210                      215                      220
Tyr Met Lys Arg Thr Ser Ile Val Val Pro Glu Pro Leu His Phe Leu
225                      230                      235                      240
Leu Pro Gly Lys Lys Asn Leu Val Thr Ile Ser Tyr Pro Ser Gly Ile
                    245                      250                      255
Pro Asp Gly Gln Leu Gln Ala Tyr Arg Lys Glu Leu His Asp Leu Phe
                    260                      265                      270
Asn Leu Pro His Asp Arg Pro Tyr Phe Lys Arg Ser Asn Ala Tyr His
        275                      280                      285
Phe Pro Asp Glu Pro Tyr Lys Asp Gly Tyr Ile Arg Asn Pro His Thr
    290                      295                      300
Tyr Leu Asn Pro Pro Asn Met Glu Thr Gly Met Ile Tyr Val Val Gln
305                      310                      315                      320
Gly Ile Tyr Gly Tyr His His Tyr Met Gln Asp Arg Ile Asp Asp Asn
                    325                      330                      335
Gly Trp Gly Cys Ala Tyr Arg Ser Leu Gln Thr Ile Cys Ser Trp Phe
                    340                      345                      350
Lys His Gln Gly Tyr Thr Glu Arg Ser Ile Pro Thr His Arg Glu Ile
        355                      360                      365
Gln Gln Ala Leu Val Asp Ala Gly Asp Lys Pro Ala Thr Phe Val Gly
    370                      375                      380
Ser Arg Gln Trp Ile Gly Ser Ile Glu Val Gln Leu Val Leu Asn Gln
385                      390                      395                      400
Leu Ile Gly Ile Thr Ser Lys Ile Leu Phe Val Ser Gln Gly Ser Glu
                    405                      410                      415
Ile Ala Ser Gln Gly Arg Glu Leu Ala Asn His Phe Gln Ser Glu Gly
        420                      425                      430
Thr Pro Val Met Ile Gly Gly Gly Val Leu Ala His Thr Ile Leu Gly
        435                      440                      445
Val Ala Trp Asn Glu Ile Thr Gly Gln Ile Lys Phe Leu Ile Leu Asp
    450                      455                      460
Pro His Tyr Thr Gly Ala Glu Asp Leu Gln Val Ile Leu Glu Lys Gly
465                      470                      475                      480
Trp Cys Gly Trp Lys Gly Pro Asp Phe Trp Asn Lys Asp Ala Tyr Tyr
                    485                      490                      495
Asn Leu Cys Leu Pro Gln Arg Pro Asn Met Ile
                    500                      505
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<210> 5403
<211> 451

<210> DNA
<213> Homo sapiens

<400> 5403
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cacgcgctag ttcgcgctgc tggatcaggc tcaggatctc cagcactgac aatggctcct
120
tcatctttgg gggctctggg accttgggtg ggggctctgg agctgcctcg cctgcaggca
180
ccactctctc agccagggac gcacgctggg gctntggatc cacgccccag tctcaggaag
240
gccagtctcc gggcggcctc ccccgctgcc tcctcgtcgc cgtgggctcg ggtcccatgc
300
agccgggcca ggaggccaaa atctgctgag ctcctgcgta tccctggtac cagcacacgg
360
cccaagaaag agcggggctg cccatcccca gggctgcctg ccgccggccc ggggcccagc
420
ccagccggaa gggggccagg cccgcaagct t
451

<210> 5404
<211> 150
<212> PRT
<213> Homo sapiens

<400> 5404
Ala Pro Ser Pro Ser Thr Ala Pro Ala Pro Arg Pro Leu Ala Pro Gly
1   5   10   15
Cys Ala Arg Pro His Ala Leu Val Arg Ala Ala Gly Ser Gly Ser Gly
            20   25   30
Ser Pro Ala Leu Thr Met Ala Pro Ser Ser Leu Gly Ala Leu Gly Pro
        35   40   45
Trp Val Gly Ala Leu Glu Leu Pro Arg Leu Gln Ala Pro Leu Ser Gln
    50   55   60
Pro Gly Thr His Ala Gly Ala Xaa Asp Pro Arg Pro Ser Leu Arg Lys
65   70   75   80
Ala Ser Leu Arg Ala Ala Ser Pro Ala Ala Ser Ser Ser Pro Trp Ala
                85   90   95
Arg Val Pro Cys Ser Arg Ala Arg Arg Pro Lys Ser Ala Glu Leu Leu
            100   105   110
Arg Ile Pro Gly Thr Ser Thr Arg Pro Lys Lys Glu Arg Gly Cys Pro
        115   120   125
Ser Pro Gly Leu Pro Ala Ala Gly Pro Gly Pro Ser Pro Ala Gly Arg
    130   135   140
Gly Pro Gly Pro Gln Ala
145   150

<210> 5405
<211> 1609
<212> DNA
<213> Homo sapiens

<400> 5405

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atattggcag aattggaagc aaatgtacct ggagcgcagg tacttggtaa tcaaataatg
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cctggatttc ttaatatgaa gataaagttt gtgtgcgccc agtgtctgag aaacggtcaa
120
gtcattgaac cagacaaaaa cagaaaatat tgtagtgcaa aagcaaggca ttcgtggacc
180
aaagaccggc gtgcgatgag agtgatgtct attgaacgta agaagtggat gaacatccgt
240
cctctcccca caaagaaaca aatgccttta cagtttgatc tgtgcaacca tattgcttct
300
gggaaaaaat gtcaatatgt gggaaactgt tcctttgctc atagtcctga ggaaagagaa
360
gtttggactt acatgaagga gaatgggata caagatatgg agcaatttta cgaactatgg
420
ctcaagagtc aaaaaaatga aaaagtgaa gacatagcca gtcagtcaaa caaggaaaat
480
ggaaaacaaa ttcacatgcc aacagattat gctgaagtta cagtggactt tcactgctgg
540
atgtgtggga aaaactgcaa cagtgagaag cagtggcagg gccacatctc ctccgagaag
600
cacaaagaga aggttttcca caccgaggac gaccagtact gctggcagca ccgcttccca
660
acaggctatt tcagtatttg tgataggtat atgaatggca cctgcccaga aggaaacagc
720
tgtaaatttg cacatggaaa tgccgaactt catgaatggg aagaagaag agatgcccta
780
aagatgaagc tcaacaaagc acgaaaagat cacttaattg cccaaatga taatgacttt
840
ggaaaatata gttttttgtt taaagattta aactaatatg ctggctttta tgtatgatac
900
ctaatcagag cattgaccag aaaaattgaa agtgttctga ggcacatagc agaggagctg
960
cagatttcct gcttgtattg gcgtatatcg ttcctcctga gcagcaaccc acagtaggta
1020
ggaaatggg ctgtttcaca ggcctggcca cgctctcacg gaaccactgg catcagatgg
1080
tgaagtgact gctacccggt tgccatctgt tgaacagact tttggatgaa gtgtgttggg
1140
gaagaggata aggttatatc taggacaact ctttgagttg gtccttcata taagaatcgt
1200
gacggtaaga gaataaacac ttgtactggg atcagaatac atgatggatg aaattcttta
1260
catgttttag cagaatgaat ttgtttaata taataaagtt tgctacttat ctgtatgtag
1320
gttgctaaaa aggattttct taactcagat tttaagccaa ataaccattt aacactagta
1380
tttgttaaat ggggtatttt tctgtatttg tatgtttcac tataataagg gaattaagga
1440
taatgtgcat tgagaatatt ttgaaaaata attgactcaa attttatttc ttggtctttt
1500
gctgtttaaa tgatgatttt gaaagattaa acctgtactg ttggtattgt gttagtgtat
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ggaccaatac tgcctgtaat aaagatttta tatataaaaa aaaaaaaaa
1609
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<210> 5406
<211> 291
<212> PRT
<213> Homo sapiens

<400> 5406
Ile Leu Ala Glu Leu Glu Ala Asn Val Pro Gly Ala Gln Val Leu Gly
1   5   10   15
Asn Gln Ile Met Pro Gly Phe Leu Asn Met Lys Ile Lys Phe Val Cys
            20   25   30
Ala Gln Cys Leu Arg Asn Gly Gln Val Ile Glu Pro Asp Lys Asn Arg
        35   40   45
Lys Tyr Cys Ser Ala Lys Ala Arg His Ser Trp Thr Lys Asp Arg Arg
    50   55   60
Ala Met Arg Val Met Ser Ile Glu Arg Lys Lys Trp Met Asn Ile Arg
65   70   75   80
Pro Leu Pro Thr Lys Lys Gln Met Pro Leu Gln Phe Asp Leu Cys Asn
                85   90   95
His Ile Ala Ser Gly Lys Lys Cys Gln Tyr Val Gly Asn Cys Ser Phe
            100   105   110
Ala His Ser Pro Glu Glu Arg Glu Val Trp Thr Tyr Met Lys Glu Asn
        115   120   125
Gly Ile Gln Asp Met Glu Gln Phe Tyr Glu Leu Trp Leu Lys Ser Gln
    130   135   140
Lys Asn Glu Lys Ser Glu Asp Ile Ala Ser Gln Ser Asn Lys Glu Asn
145   150   155   160
Gly Lys Gln Ile His Met Pro Thr Asp Tyr Ala Glu Val Thr Val Asp
                165   170   175
Phe His Cys Trp Met Cys Gly Lys Asn Cys Asn Ser Glu Lys Gln Trp
            180   185   190
Gln Gly His Ile Ser Ser Glu Lys His Lys Glu Lys Val Phe His Thr
        195   200   205
Glu Asp Asp Gln Tyr Cys Trp Gln His Arg Phe Pro Thr Gly Tyr Phe
    210   215   220
Ser Ile Cys Asp Arg Tyr Met Asn Gly Thr Cys Pro Glu Gly Asn Ser
225   230   235   240
Cys Lys Phe Ala His Gly Asn Ala Glu Leu His Glu Trp Glu Glu Arg
                245   250   255
Arg Asp Ala Leu Lys Met Lys Leu Asn Lys Ala Arg Lys Asp His Leu
                260   265   270
Ile Gly Pro Asn Asp Asn Asp Phe Gly Lys Tyr Ser Phe Leu Phe Lys
        275   280   285
Asp Leu Asn
        290

<210> 5407
<211> 2010
<212> DNA
<213> Homo sapiens

<400> 5407
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60

4588

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atggtggtgg cgctgctcat cgtttgcgac gttccctcag cctctgccca aagaaagaag
120
gagatggtgt tatctgaaaa ggttagtcag ctgatggaat ggactaacaa aagacctgta
180
ataagaatga atggagacaa gttccgtcgc cttgtgaaag ccccaccgag aaattactcc
240
gttatcgtca tgttcactgc tctccaactg catagacagt gtgtcgtttg caagcaagct
300
gatgaagaat tccagatcct ggcaaactcc tggcgatact ccagtgcatt caccaacagg
360
atattttttg ccatggtgga ttttgatgaa ggctctgatg tatttcagat gctaaacatg
420
aattcagctc caactttcat caactttcct gcaaaaggga aacccaaacg gggtgataca
480
tatgagttac aggtgcgggg tttttcagct gagcagattg cccggtggat cgccgacaga
540
actgatgtca atattagagt gattagaccc ccaaattatg ctggtcccct tatgttggga
600
ttgctttttgg ctgttattgg tggacttgtg tatcttcgaa gaagtaatat ggaatttctc
660
tttaataaaa ctggatgggc ttttgcagct ttgtgttttg tgcttgctat gacatctggt
720
caaatgtgga accatataag aggaccacca tatgcccata agaatcccca cacgggacat
780
gtgaattata tccatggaag cagtcaagcc cagtttgtag ctgaaacaca cattgttctt
840
ctgtttaatg gtggagttac cttaggaatg gtgctttttat gtgaagctgc tacctctgac
900
atggatattg gaaagcgaaa gataatgtgt gtggctggta ttggacttgt tgtattattc
960
ttcagttgga tgctctctat ttttagatct aaatatcatg gctacccata cagctttctg
1020
atgagttaaa aaggtcccag agatatatag acactggagt actggaaatt gaaaaacgaa
1080
aatcgtgtgt gtttgaaaag aagaatgcaa cttgtatatt ttgtattacc tctttttttc
1140
aagtgattta aatagttaat catttaacca agaagatgt gtagtgcctt aacaagcaat
1200
cctctgtcaa aatctgaggt atttgaaaat aattatcctc ttaaccttct cttcccagtg
1260
aactttatgg aacatttaat ttagtacaat taagtatatt ataaagatac tatgactgcc
1320
·acctgccatt taccttctaa taaccctgcc atgtggtttg cagaaagaga tggatatagt
1380
agcctcagaa gaaatatttt atgtgggttt tttgttttttc gttactagat ttcatggatg
1440
aggggatatg gttgacctttt tacttttttaa tggagcagcc agttttttgtt aattactcac
1500
ttgtaaattg tgagattctg aattccttac ctgctattct tgtacttgtc tcaggccaaa
1560
tctatgctgt ggttcttatg agacttgtat gaagatgccc tgatttgtac agattgacca
1620
cgggaatact actgccatgt aatctgtata gttccagata atttgtcatg aacattgaca
1680
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gaatgacaat tttttgtatt tgctttttct cccctttaaga gcacattctt ctgtaaggag
1740
aaaggcagca ttctggctaa aatgtgtaga aggtaattta ctacacttat aaaatagtgt
1800
gactttttgtg aaaattttga attagctttc atatgaagtg ccttaagtag actcttcatt
1860
tacttttctg gtaatggttt aaatatcatt tgttatgcat ttttaagata cagttcagaa
1920
tgacacattg tagtggcaaa gataaccaaa tgtctggctg tttgctttttt gaccatatca
1980
ataaactttt acaatctaaa aaaaaaaaaa
2010

<210> 5408
<211> 335
<212> PRT
<213> Homo sapiens

<400> 5408
Met Ala Ala Arg Trp Arg Phe Trp Cys Val Ser Val Thr Met Val Val
1   5   10   15
Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln Arg Lys
            20   25   30
Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met Glu Trp Thr
            35   40   45
Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys Phe Arg Arg Leu
    50   55   60
Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile Val Met Phe Thr Ala
65   70   75   80
Leu Gln Leu His Arg Gln Cys Val Val Cys Lys Gln Ala Asp Glu Glu
                85   90   95
Phe Gln Ile Leu Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Thr Asn
            100   105   110
Arg Ile Phe Phe Ala Met Val Asp Phe Asp Glu Gly Ser Asp Val Phe
        115   120   125
Gln Met Leu Asn Met Asn Ser Ala Pro Thr Phe Ile Asn Phe Pro Ala
    130   135   140
Lys Gly Lys Pro Lys Arg Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly
145   150   155   160
Phe Ser Ala Glu Gln Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val
                165   170   175
Asn Ile Arg Val Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu
                180   185   190
Gly Leu Leu Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser
            195   200   205
Asn Met Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu
    210   215   220
Cys Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
225   230   235   240
Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr
                245   250   255
Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val
                260   265   270
Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu

```
        275                280                285
Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys Ile Met Cys Val
    290                295                300
Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile
305                310                315                320
Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser
                325                330                335
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<210> 5409
<211> 2019
<212> DNA
<213> Homo sapiens

<400> 5409
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120
caaaatgcat aatacagaaa cttttttaaga aaggataaaa aattacactc aggacccata
180
actcttcctc attataagca tatgtagtga ttcattcatg caggttttta tatgtagata
240
ggattttttt ttccttttca agaattccat tgtagccatg agatgaaaaa tgtattatgg
300
taatggtata gctttcttct attttgcttt tagtgttagg tttgctaaaa gcttatttaa
360
aattcccaac tgacataatg tgttttcaat aaggaggacg ctgccgtgtc caataccctt
420
cccctgtcat tgttcggtac catatctcct ggcttccttc tacatgggtc acttagttaa
480
gagggaggcc aagggagttc cgatttcagg cagtgtgtgg cagggttact gtcctagcaa
540
cctggctact cctcactgtg aacgtttctc ataggtgtca tatggcagga tgaaaaacat
600
atttgcctcc cagtgaaaga tggcacaggc ttttgcccag ccaggttggc aagagaacag
660
aactcttaac cccttgctcg acaggtttga gttcaagggg ttggatgctc caagcagagg
720
gccaaaccct gatttatgaa gcatgctagg tcaacagcca gtcagaccac tcccacaaag
780
gctgccacaa aaactcccag ggaactgaga aaaatgttca gggtggcaga actctgtggc
840
ccttctgcct ctttggagaa gtgttcaaag tagagaatat cccccagccc cacccagtgc
900
catgggacca aggcctttcc atcctggtaa tcataagttt taggggaatc agctgccctg
960
ggcctgccag ggcatcacat ccacagaagc agaagagagg agtcctccat agaagccatg
1020
gaggagccgg agattgacac gcaggtggaa gtatctgcct cccacctcct accctccccg
1080
cagcctatag tctagcacag gcctggagtg cgggagcaac tgctacaatg ttcagttcaa
1140
tcagataaat tggttgggtg tctcttcaga ttccagaaca cttggaaatg gtaattctgc
1200
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caaaagaggc tctgtcagag atgatctggg tgacagattg cagttaaaaa catcatctat
1260
tgaacctctg gaagttacac tgaactttcg gtcagagaaa ctgctccttc ggattaaagg
1320
ctcactcatt ttttccagaa ataacttaat cgtctccttc ttttctggac ttgtacttga
1380
caaattcaga acttttccat ttacttttac aacggaatta ctgagcccaa accaatagaa
1440
gaaatcaaat aatgcatcag ctttgaattc atatgcaaag cttaaatttt ctccattaac
1500
cacttcattt cctgggggga agaaattctt cactgcctct tgaaaatcaa actgaaagag
1560
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1740
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1800
cctcttgatg tagctgctga ggcggtagag ctgcccgtcg aggcgcacga ggccgtcacc
1860
gaagacgttg aagccccccc gcgccgccgc cggctccccg ggcccggcca ccacgagctg
1920
gtcgccgctc agctggaagg caccgggctg caggcgcagc agctgagcca gcggcagcag
1980
ggccagctcg cagtcgcagg tccacaggct gcgaagctt
2019

<210> 5410
<211> 198
<212> PRT
<213> Homo sapiens

<400> 5410
Met Leu Phe Phe Ile Asn Val Gln Thr Lys Lys Asp Thr Ser Lys Glu
  1               5                  10                  15
Arg Thr Tyr Ala Phe Leu Val Asn Thr Arg His Pro Lys Ile Arg Arg
             20                  25                  30
Gln Ile Glu Gln Gly Met Asp Met Val Ile Ser Ser Val Ile Gly Glu
         35                  40                  45
Ser Tyr Arg Leu Gln Ser Met Gln Cys Ser Ser Leu Phe Gln Phe Asp
     50                  55                  60
Phe Gln Glu Ala Val Lys Asn Phe Phe Pro Pro Gly Asn Glu Val Val
65                  70                  75                  80
Asn Gly Glu Asn Leu Ser Phe Ala Tyr Glu Phe Lys Ala Asp Ala Leu
                 85                  90                  95
Phe Asp Phe Phe Tyr Trp Phe Gly Leu Ser Asn Ser Val Val Lys Val
                100                 105                 110
Asn Gly Lys Val Leu Asn Leu Ser Ser Thr Ser Pro Glu Lys Lys Glu
            115                 120                 125
Thr Ile Lys Leu Phe Leu Glu Lys Met Ser Glu Pro Leu Ile Arg Arg
        130                 135                 140
Ser Ser Phe Ser Asp Arg Lys Phe Ser Val Thr Ser Arg Gly Ser Ile

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145                    150                    155                    160
Asp Asp Val Phe Asn Cys Asn Leu Ser Pro Arg Ser Ser Leu Thr Glu
                       165                    170                    175
Pro Leu Leu Ala Glu Leu Pro Phe Pro Ser Val Leu Glu Ser Glu Glu
                180                    185                    190
Thr Pro Asn Gln Phe Ile
          195


<210> 5411
<211> 2802
<212> DNA
<213> Homo sapiens


<400> 5411
nccaggtaaa tctgaggaac ttccccaagc ctttatttgc acccggtaaa tccaataata
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ccaattttga ttttaaatgg gagggggggtc cttgcaggcc ccacatgaga gggtggccct
120
tgaagaattc cttggggtac ccacaggctt accagtttgg aaactcgcca ccccgagcag
180
aaggcagccc ggtattttgt gttatacaaa ccgcccccta aagacaacat tcccgcccta
240
gtggaggagt acctggaacg cgccaccttc gtagccaatg acctcgactg gctcctggcc
300
ttgcctcacg ataaattctg gtgccaggtg atctttgacg agactctaca gaagtgcctg
360
gactcctacc tgcgctatgt cccccgcaaa ttcgacgagg gggtggcctc agcccctgag
420
gttgttgaca tgcagaagcg cctccatcga agtgtttttc tcaccttcct ccgcatgtcc
480
actcacaagg aatccaaaga tcacttcatt tccccttctg cgtttggaga aatcctctac
540
aataacttcc tctttgacat tccaaagatc ctggacctct gcgtgctctt tggaaaaggc
600
aactcaccac tgctccagaa gatgatagga aacatcttta cacagcagcc aagttactac
660
agtgacctgg atgaaaccct gcctaccatc cttcaggtct tcagcaatat cctccagcac
720
tgtggtttgc aaggggacgg ggccaatacc acaccccaga agcttgagga gaggggccga
780
ttgaccccca gtgacatgcc tctcctggaa ttaaaggaca ttgttctcta cctttgtgat
840
acctgcacca cactttgggc ctttctggat atcttccctt tggcttgcca gaccttccag
900
aagcacgact tttgttacag actagcttcc ttctacgaag cagcaattcc cgaaatggag
960
tctgcaatta agaagaggag gcttgaagat agcaagcttc ttggtgacct gtggcagagg
1020
ctctcccatt ccaggaagaa gctaatggag attttccaca tcatcctgaa ccagatctgc
1080
ctccttccca tcctagaaag cagctgtgac aacattcagg gcttcatcga agagttcctt
1140
cagatcttca gctccttgct gcaggagaag aggttcctcc gggactatga tgcactcttc
1200
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cccgtggccg aagacatcag cttgctgcag caggcctcat cagtcttgga cgagacgcgg
1260
actgcctaca tcctccaggc agtcgagagt gcatgggaag gggtggacag acggaaagcc
1320
acagatgcta aagacccatc ggtgattgag gagcctaatg gggagcctaa cggggtcacg
1380
gtgacagcag aggcagtcag tcaagcatca tcacatccgg agaactcgga ggaagaggag
1440
tgcatgggag cagccgcggc tgtgggccct gccatgtgtg gggtggaact ggactctctc
1500
atctcccaag tgaaggacct gctgccagac cttggtgagg gcttcatcct ggcctgcctg
1560
gagtactacc actacgaccc agagcaggtg atcaacaata tcctggagga gcggctggcc
1620
cccaccctca gccagctgga ccgcaaccta gacagagaaa tgaaaccaga ccctacaccc
1680
ctgctgacgt ctcgccacaa cgtcttccag aatgacgagt ttgatgtgtt cagcagggac
1740
tcagtagacc tgagccgggt gcacaagggc aagagcacca ggaaggagga aaacacgcgg
1800
agtttgctga acgacaagcg tgcagtggcg gcacagcggc agcgctacga gcagtacagc
1860
gtggtggtgg aggaggtgcc actgcagcca ggcgagagcc tgccctacca cagtgtctac
1920
tacgaggatg agtacgatga cacatacgat ggcaaccagg tgggcgccaa tgatgcagac
1980
tctatgacga gctcatcagc cgcaggccat tcaccatccc aggtgctgag aaccaaagtg
2040
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2100
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2160
cgcatggcct ttctcgccaa gaaagggtac cggcatgaca gctcaacagc agtggccggc
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2280
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2340
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2400
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2460
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2520
atgagcgcct tcctgcagaa cacacagtgc cttatgccac agccgaagaa tccgtggggc
2580
cggcaagcag gcaccttccc ccagctgcgc tagcgggaaa gagatgggga tggagtccca
2640
aggcaagcgc cccaaacctc gggccacaag acaccacttc ccctttaccc tggacagcag
2700
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2760
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
2802
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<210> 5412
<211> 642
<212> PRT
<213> Homo sapiens

<400> 5412
Met Gln Lys Arg Leu His Arg Ser Val Phe Leu Thr Phe Leu Arg Met
1   5   10   15
Ser Thr His Lys Glu Ser Lys Asp His Phe Ile Ser Pro Ser Ala Phe
            20   25   30
Gly Glu Ile Leu Tyr Asn Asn Phe Leu Phe Asp Ile Pro Lys Ile Leu
            35   40   45
Asp Leu Cys Val Leu Phe Gly Lys Gly Asn Ser Pro Leu Leu Gln Lys
        50   55   60
Met Ile Gly Asn Ile Phe Thr Gln Gln Pro Ser Tyr Tyr Ser Asp Leu
65   70   75   80
Asp Glu Thr Leu Pro Thr Ile Leu Gln Val Phe Ser Asn Ile Leu Gln
                85   90   95
His Cys Gly Leu Gln Gly Asp Gly Ala Asn Thr Thr Pro Gln Lys Leu
            100   105   110
Glu Glu Arg Gly Arg Leu Thr Pro Ser Asp Met Pro Leu Leu Glu Leu
        115   120   125
Lys Asp Ile Val Leu Tyr Leu Cys Asp Thr Cys Thr Thr Leu Trp Ala
    130   135   140
Phe Leu Asp Ile Phe Pro Leu Ala Cys Gln Thr Phe Gln Lys His Asp
145   150   155   160
Phe Cys Tyr Arg Leu Ala Ser Phe Tyr Glu Ala Ala Ile Pro Glu Met
                165   170   175
Glu Ser Ala Ile Lys Lys Arg Arg Leu Glu Asp Ser Lys Leu Leu Gly
            180   185   190
Asp Leu Trp Gln Arg Leu Ser His Ser Arg Lys Lys Leu Met Glu Ile
        195   200   205
Phe His Ile Ile Leu Asn Gln Ile Cys Leu Leu Pro Ile Leu Glu Ser
    210   215   220
Ser Cys Asp Asn Ile Gln Gly Phe Ile Glu Glu Phe Leu Gln Ile Phe
225   230   235   240
Ser Ser Leu Leu Gln Glu Lys Arg Phe Leu Arg Asp Tyr Asp Ala Leu
                245   250   255
Phe Pro Val Ala Glu Asp Ile Ser Leu Leu Gln Gln Ala Ser Ser Val
                260   265   270
Leu Asp Glu Thr Arg Thr Ala Tyr Ile Leu Gln Ala Val Glu Ser Ala
        275   280   285
Trp Glu Gly Val Asp Arg Arg Lys Ala Thr Asp Ala Lys Asp Pro Ser
        290   295   300
Val Ile Glu Glu Pro Asn Gly Glu Pro Asn Gly Val Thr Val Thr Ala
305   310   315   320
Glu Ala Val Ser Gln Ala Ser Ser His Pro Glu Asn Ser Glu Glu Glu
                325   330   335
Glu Cys Met Gly Ala Ala Ala Ala Val Gly Pro Ala Met Cys Gly Val
                340   345   350
Glu Leu Asp Ser Leu Ile Ser Gln Val Lys Asp Leu Leu Pro Asp Leu
        355   360   365
Gly Glu Gly Phe Ile Leu Ala Cys Leu Glu Tyr Tyr His Tyr Asp Pro

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         370                      375                      380
Glu Gln Val Ile Asn Asn Ile Leu Glu Glu Arg Leu Ala Pro Thr Leu
385                      390                      395                      400
Ser Gln Leu Asp Arg Asn Leu Asp Arg Glu Met Lys Pro Asp Pro Thr
                405                      410                      415
Pro Leu Leu Thr Ser Arg His Asn Val Phe Gln Asn Asp Glu Phe Asp
                420                      425                      430
Val Phe Ser Arg Asp Ser Val Asp Leu Ser Arg Val His Lys Gly Lys
                435                      440                      445
Ser Thr Arg Lys Glu Glu Asn Thr Arg Ser Leu Leu Asn Asp Lys Arg
                450                      455                      460
Ala Val Ala Ala Gln Arg Gln Arg Tyr Glu Gln Tyr Ser Val Val Val
465                      470                      475                      480
Glu Glu Val Pro Leu Gln Pro Gly Glu Ser Leu Pro Tyr His Ser Val
                485                      490                      495
Tyr Tyr Glu Asp Glu Tyr Asp Asp Thr Tyr Asp Gly Asn Gln Val Gly
                500                      505                      510
Ala Asn Asp Ala Asp Ser Met Thr Ser Ser Ser Ala Ala Gly His Ser
                515                      520                      525
Pro Ser Gln Val Leu Arg Thr Lys Val Pro Arg Glu Gly Gln Glu Glu
                530                      535                      540
Asp Asp Asp Asp Glu Glu Asp Asp Ala Asp Glu Glu Ala Pro Lys Pro
545                      550                      555                      560
Asp His Phe Val Gln Asp Pro Ala Val Leu Arg Glu Lys Ala Glu Ala
                565                      570                      575
Arg Arg Met Ala Phe Leu Ala Lys Lys Gly Tyr Arg His Asp Ser Ser
                580                      585                      590
Thr Ala Val Ala Gly Ser Pro Arg Gly His Gly Gln Ser Arg Glu Thr
                595                      600                      605
Thr Gln Glu Arg Arg Lys Lys Glu Ala Asn Lys Ala Thr Arg Ala Asn
                610                      615                      620
His Asn Arg Arg Thr Met Ala Asp Arg Lys Arg Ser Lys Gly Met Ile
625                      630                      635                      640
Pro Ser
```

```
<210> 5413
<211> 1677
<212> DNA
<213> Homo sapiens

<400> 5413
agagatggtt gtgtaatgaa aattacaagg tcgttgaaca aggttagtag tgtcttgcct
60
ttttattctg tcatctcaaa cttcataaac agtcatacgt tctttgaaac gtagatttaa
120
tgtgtgcagt catttataaa tcaatgacat ttctcttttt tgtcataaaa ctgtatactg
180
aagaaattaa cgaatgcaca gtttctaaag ctgttgcatt tgtctgtgga atcataggtt
240
cccactaaga agaatttcag cattctggcc agaaatttga atacaattca agttgaagaa
300
atgtctgcct gtaacattag catccagggt cccagcatat ataataagga gcctaaaaat
360
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ataataaatc ctcatgaaaa agttcaaatg aagtcaattt gtgcaaattc tcctataaag
420
gcacaacagg atcaattaca agtaaaaaac aatataaaag caagtcttca caatgtcaaa
480
agttccttac ctctttttaa tactaagtcc tctacttctg tggggcagtt gcagtctcct
540
accttgaatt cacctatcta tatgcaaaag caaggaaaaa atgaacatct tgcatttaat
600
accaaatcta aggcttcaac agttggttca gaattggtac ttgtttctac caccgttcca
660
actgttcatc atgtttctga tttggaaatg agctctactc tggactgttt acctgtgttg
720
gctgattggg aggatgtggt tttactgcca gcatctcagc ctgaggaaaa cgtagactgt
780
acagttccca ttagtgactc agacttagag atttcattta attctggaga aagattaatg
840
gttttgaaag aattggaaat gtcaagtcat gaaaactttg gagacataga ggaaactcct
900
caaaaatctg agacttctaa gtctattgtg tacaagagtc ctcacactac tatttataat
960
gtaaaagaag ccaaagatcc aggttcagat atttctgcct ttaagttacc tgaacacaaa
1020
tcaagtacct tcaacagagt taatgccaat atgtctcatc ctttagtttt ggggaaacat
1080
cctcttcttt caggtggtac caaaaggaat ccatgcagtc cccaagcttt cccaccagca
1140
aaaaaacaac ccttcactat tcatgaagaa aagcctacat catctgattg ctccccagta
1200
agaagttctt cctggaggcg tctcccatct atattaactt ctacagttaa cctacaagag
1260
ccatggaaga gtgggaaaat gacacctcca ttatgcaagt gtggtcggag atctaagaga
1320
cttgttgttt ctaataatgg accgaaccat ggaaaagtct tctattgttg ccctatcggg
1380
aaataccaag aaaacagaaa atgttgtggt tatttcaaat gggaacaaac acttcaaaag
1440
gaaagagcca acagcatggt tccatctcat tccacagggg gactcacttt tagttctcca
1500
gaaacaagcc atatttgtga cagaaattta agtatttcca ccaaaaattc tttgagactc
1560
aggccttcaa tgaggaattg ataacctttc atgtatgaat cctaattgtt ccttgaattt
1620
ccaaacatga gtattctgat aacatcttac actattttat ttttatttta tatatta
1677
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<210> 5414
<211> 426
<212> PRT
<213> Homo sapiens

<400> 5414
Met Ser Ala Cys Asn Ile Ser Ile Gln Gly Pro Ser Ile Tyr Asn Lys
1               5                   10                  15
Glu Pro Lys Asn Ile Ile Asn Pro His Glu Lys Val Gln Met Lys Ser
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```
              20                      25                      30
Ile Cys Ala Asn Ser Pro Ile Lys Ala Gln Gln Asp Gln Leu Gln Val
        35                      40                      45
Lys Asn Asn Ile Lys Ala Ser Leu His Asn Val Lys Ser Ser Leu Pro
    50                      55                      60
Leu Phe Asn Thr Lys Ser Ser Thr Ser Val Gly Gln Leu Gln Ser Pro
65                      70                      75                      80
Thr Leu Asn Ser Pro Ile Tyr Met Gln Lys Gln Gly Lys Asn Glu His
                85                      90                      95
Leu Ala Phe Asn Thr Lys Ser Lys Ala Ser Thr Val Gly Ser Glu Leu
            100                     105                     110
Val Leu Val Ser Thr Thr Val Pro Thr Val His His Val Ser Asp Leu
        115                     120                     125
Glu Met Ser Ser Thr Leu Asp Cys Leu Pro Val Leu Ala Asp Trp Glu
    130                     135                     140
Asp Val Val Leu Leu Pro Ala Ser Gln Pro Glu Glu Asn Val Asp Cys
145                     150                     155                     160
Thr Val Pro Ile Ser Asp Ser Asp Leu Glu Ile Ser Phe Asn Ser Gly
                165                     170                     175
Glu Arg Leu Met Val Leu Lys Glu Leu Glu Met Ser Ser His Glu Asn
            180                     185                     190
Phe Gly Asp Ile Glu Glu Thr Pro Gln Lys Ser Glu Thr Ser Lys Ser
            195                     200                     205
Ile Val Tyr Lys Ser Pro His Thr Thr Ile Tyr Asn Val Lys Glu Ala
    210                     215                     220
Lys Asp Pro Gly Ser Asp Ile Ser Ala Phe Lys Leu Pro Glu His Lys
225                     230                     235                     240
Ser Ser Thr Phe Asn Arg Val Asn Ala Asn Met Ser His Pro Leu Val
                245                     250                     255
Leu Gly Lys His Pro Leu Leu Ser Gly Gly Thr Lys Arg Asn Pro Cys
            260                     265                     270
Ser Pro Gln Ala Phe Pro Pro Ala Lys Lys Gln Pro Phe Thr Ile His
    275                     280                     285
Glu Glu Lys Pro Thr Ser Ser Asp Cys Ser Pro Val Arg Ser Ser Ser
    290                     295                     300
Trp Arg Arg Leu Pro Ser Ile Leu Thr Ser Thr Val Asn Leu Gln Glu
305                     310                     315                     320
Pro Trp Lys Ser Gly Lys Met Thr Pro Pro Leu Cys Lys Cys Gly Arg
            325                     330                     335
Arg Ser Lys Arg Leu Val Val Ser Asn Asn Gly Pro Asn His Gly Lys
            340                     345                     350
Val Phe Tyr Cys Cys Pro Ile Gly Lys Tyr Gln Glu Asn Arg Lys Cys
            355                     360                     365
Cys Gly Tyr Phe Lys Trp Glu Gln Thr Leu Gln Lys Glu Arg Ala Asn
    370                     375                     380
Ser Met Val Pro Ser His Ser Thr Gly Gly Leu Thr Phe Ser Ser Pro
385                     390                     395                     400
Glu Thr Ser His Ile Cys Asp Arg Asn Leu Ser Ile Ser Thr Lys Asn
                405                     410                     415
Ser Leu Arg Leu Arg Pro Ser Met Arg Asn
            420                     425
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<210> 5415
<211> 1493

<212> DNA
<213> Homo sapiens

<400> 5415
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cccctttggt tccctgagcc tcagctggag gtggggggtg cctgcagtgc gctggctcag
120
tctccttctg aaaagctgga tccagcttgt ttgaagccct tgagctgatc ttagatccgg
180
cgcaggagac caacgcctgc catgctgttc cggctctcag agcactcctc accagaggag
240
gaagcctccc cccaccagag agcctcagga gagggcacc atctcaagtc gaagagaccc
300
aaccctgtg cctacacacc accttcgctg aaagctgtgc agcgcattgc tgagtctcac
360
ctgcagtcta tcagcaattt gaatgagaac caggcctcag aggaggagga tgagctgggg
420
gagcttcggg agctgggtta tccaagagag gaagatgagg aggaagagga ggatgatgaa
480
gaagaggaag aagaagagga cagccaggct gaagtcctga aggtcatcag gcagtctgct
540
gggcaaaaga caacctgtgg ccagggtctg gaagggccct gggagcgccc accccctctg
600
gatgagtccg agagagatgg aggctctgag gaccaagtgg aagacccagc actaagtgag
660
cctggggagg aacctcagcg cccttccccc tctgagcctg gcacataggc acccagcctg
720
catctcccag gaggaagtgg aggggacatc gctgttcccc agaaacccac tctatcctca
780
ccctgttttg tgctcttccc ctcgcctgct agggctgcgg cttctgactt ctagaagact
840
aaggctggtc tgtgtttgct tgtttgccca cctttggctg atacccagag aacctgggca
900
cttgctgcct gatgcccacc cctgccagtc attcctccat tcacccagcg ggaggtggga
960
tgtgagacag cccacattgg aaaatccaga aaaccgggaa cagggatttg cccttcacaa
1020
ttctactccc cagatcctct cccctggaca caggagaccc acaggcagg accctaagat
1080
ctggggaaag gaggtcctga gaaccttgag gtacccttag atccttttct acccactttc
1140
ctatggagga ttccaagtca ccacttctct caccggcttc taccagggtc caggactaag
1200
gcgtttttct ccatagcctc aacattttgg gaatcttccc ttaatcaccc ttgctcctcc
1260
tgggtgcctg gaagatggac tggcagagac ctctttgttg cgttttgtgc tttgatgcca
1320
ggaatgccgc ctagtttatg tccccggtgg ggcacacagc ggggggcgcc aggttttcct
1380
tgtcccccag ctgctctgcc cctttcccct tcttccctga ctccaggcct gaaccccctcc
1440
cgtgctgtaa taaatctttg taaataaaaa aaaaaaaaaa aaaaaaaaa aaa
1493

.

<210> 5416
<211> 55
<212> PRT
<213> Homo sapiens

<400> 5416
Xaa Ser Leu Thr Glu Thr Gly Lys Glu Ala Gln Thr Lys Ala Pro Glu
1   5   10   15
Arg Ser Pro Arg Pro Leu Trp Phe Pro Glu Pro Gln Leu Glu Val Gly
            20   25   30
Gly Ala Cys Ser Ala Leu Ala Gln Ser Pro Ser Glu Lys Leu Asp Pro
        35   40   45
Ala Cys Leu Lys Pro Leu Ser
    50   55

<210> 5417
<211> 2087
<212> DNA
<213> Homo sapiens

<400> 5417
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60
aacctaccac cctcatggat aaagaaggtg gagagtgata aaggagactg ttctagataa
120
catggtcaga gaaggtctct ctgaagaggt gactttttag cagagacttg aaggagatga
180
gagaataagc catgccagca tctgagatga agagcattcc agacagaaag aacagcaagc
240
gcagaggccc tgaggtggcc catatctggc gtgttcaagg agtagccata ggaggccagg
300
atggctgcaa ttgatgagga aggagggaga gagataggag atgaagtcaa tatattggtg
360
aaggaacaga cacagttagg ggtcaagact ctcatgaggt tactcaagga accagagaaa
420
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480
gacaagcact tccgtcatgc agaaaacccc catcatcctc tcaaaacctc cagcagagcg
540
gcccctctgg agaagcccat cgttctcatg aagccacggg aggagggggaa ggggcctgtg
600
gccgtgacag gtgcctctac ccctgagggc accgccccac cacccctgc agcccctgcg
660
ccacccaagg gggagaagga ggggcagaga cccacacagc ctgtgtacca gatccagaac
720
cggggcatgg gcactgccgc accagcagcc atggaccctg tcgtgggtca ggccaaacta
780
ctgcccccag agcgcatgaa gcacagcatc aagttggtgg atgaccagat gaattggtgt
840   .
gacagtgcca tcgagtacct gttggatcag actgatgtgt tggtggttgg tgtcctgggc
900
ctccagggga caggcaagtc catggtcatg tcattgttgt cagccaacac tccagaggag
960

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gaccagagga cttatgtttt ccgggcccag agcgctgaaa tgaaggaacg aggggggcaac
1020
cagaccagtg gcatcgactt ctttattacc caagaacgga ttgtttttcct ggacacacag
1080
cccatcctga gcccttctat cctagaccat ctcatcaata atgaccgcaa actgcctcca
1140
gagtacaacc ttccccacac ttacgttgaa atgcagtcac tccagattgc tgccttcctt
1200
ttcacggtct gccatgtggt gattgttgtc caggactggt tcacagacct cagtctctac
1260
aggctgtggg acctggggtg caagtgcaag agcaacagcc actcacccca aaccccaagg
1320
ttcctgcaga cagcagagat ggtgaagccc tccacccat ccccccagcca cgagtccagc
1380
agctcatcgg gctccgatga aggcaccgag tactacccccc acctagtctt cttgcagaac
1440
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1500
cagctcatgg cccactccca cctgcgttac aagggaactc tgtccatgtt acaatgcaat
1560
gtcttcccgg ggcttccacc tgacttcctg gactctgagg tcaacttatt cctggtaccc
1620
ttcatggaca gtgaagcaga gagtgaaaac ccaccaagag caggacctgg ttccagccca
1680
ctcttctccc tgctgcctgg gtatcgtggc caccccagtt tccagtcctt ggtgagcaag
1740
ctccggagcc aagtgatgtc catggcccgg ccacagctgt cacacacgat cctcaccgag
1800
aagaactggt ccactacgc tgcccggatc tgggatgggg tgagaaagtc ctctgctctg
1860
gcagagtaca gccgcctgct ggcctgaggc caaggagagg aatgtcatgc aggggacctc
1920
ctgggtccgc agtgtactgc gagggagcac agatgtccat cccccgctgg ggtggagagc
1980
ggcagcaggc ctgatggatg agggatcgtg gcttcccggc ccagagacat gaggtgtcca
2040
gggccaggcc ccccaccctc agttggggct gttccggggg tgactgt
2087


<210> 5418
<211> 528
<212> PRT
<213> Homo sapiens


<400> 5418
Met Ala Ala Ile Asp Glu Glu Gly Gly Arg Glu Ile Gly Asp Glu Val
1               5                   10                  15
Asn Ile Leu Val Lys Glu Gln Thr Gln Leu Gly Val Lys Thr Leu Met
            20                  25                  30
Arg Leu Leu Lys Glu Pro Glu Lys Glu Arg Asp Ser Asp Ser Asp Phe
        35                  40                  45
Ser Pro Leu Gln Gln Thr Glu Gly Cys Gln Arg Arg Asp Lys His Phe
    50                  55                  60
Arg His Ala Glu Asn Pro His His Pro Leu Lys Thr Ser Ser Arg Ala
```

```
65                    70                    75                    80
Ala Pro Leu Glu Lys Pro Ile Val Leu Met Lys Pro Arg Glu Glu Gly
                85                    90                    95
Lys Gly Pro Val Ala Val Thr Gly Ala Ser Thr Pro Glu Gly Thr Ala
            100                   105                   110
Pro Pro Pro Pro Ala Ala Pro Ala Pro Pro Lys Gly Glu Lys Glu Gly
        115                   120                   125
Gln Arg Pro Thr Gln Pro Val Tyr Gln Ile Gln Asn Arg Gly Met Gly
    130                   135                   140
Thr Ala Ala Pro Ala Ala Met Asp Pro Val Val Gly Gln Ala Lys Leu
145                   150                   155                   160
Leu Pro Pro Glu Arg Met Lys His Ser Ile Lys Leu Val Asp Asp Gln
                165                   170                   175
Met Asn Trp Cys Asp Ser Ala Ile Glu Tyr Leu Leu Asp Gln Thr Asp
            180                   185                   190
Val Leu Val Val Gly Val Leu Gly Leu Gln Gly Thr Gly Lys Ser Met
        195                   200                   205
Val Met Ser Leu Leu Ser Ala Asn Thr Pro Glu Glu Asp Gln Arg Thr
    210                   215                   220
Tyr Val Phe Arg Ala Gln Ser Ala Glu Met Lys Glu Arg Gly Gly Asn
225                   230                   235                   240
Gln Thr Ser Gly Ile Asp Phe Phe Ile Thr Gln Glu Arg Ile Val Phe
                245                   250                   255
Leu Asp Thr Gln Pro Ile Leu Ser Pro Ser Ile Leu Asp His Leu Ile
            260                   265                   270
Asn Asn Asp Arg Lys Leu Pro Pro Glu Tyr Asn Leu Pro His Thr Tyr
        275                   280                   285
Val Glu Met Gln Ser Leu Gln Ile Ala Ala Phe Leu Phe Thr Val Cys
    290                   295                   300
His Val Val Ile Val Val Gln Asp Trp Phe Thr Asp Leu Ser Leu Tyr
305                   310                   315                   320
Arg Leu Trp Asp Leu Gly Cys Lys Cys Lys Ser Asn Ser His Ser Pro
            325                   330                   335
Gln Thr Pro Arg Phe Leu Gln Thr Ala Glu Met Val Lys Pro Ser Thr
        340                   345                   350
Pro Ser Pro Ser His Glu Ser Ser Ser Ser Ser Gly Ser Asp Glu Gly
    355                   360                   365
Thr Glu Tyr Tyr Pro His Leu Val Phe Leu Gln Asn Lys Ala Arg Arg
    370                   375                   380
Glu Asp Phe Cys Pro Arg Lys Leu Arg Gln Met His Leu Met Ile Asp
385                   390                   395                   400
Gln Leu Met Ala His Ser His Leu Arg Tyr Lys Gly Thr Leu Ser Met
            405                   410                   415
Leu Gln Cys Asn Val Phe Pro Gly Leu Pro Pro Asp Phe Leu Asp Ser
        420                   425                   430
Glu Val Asn Leu Phe Leu Val Pro Phe Met Asp Ser Glu Ala Glu Ser
    435                   440                   445
Glu Asn Pro Pro Arg Ala Gly Pro Gly Ser Ser Pro Leu Phe Ser Leu
    450                   455                   460
Leu Pro Gly Tyr Arg Gly His Pro Ser Phe Gln Ser Leu Val Ser Lys
465                   470                   475                   480
Leu Arg Ser Gln Val Met Ser Met Ala Arg Pro Gln Leu Ser His Thr
                485                   490                   495
Ile Leu Thr Glu Lys Asn Trp Phe His Tyr Ala Ala Arg Ile Trp Asp
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                 500                   505                   510
Gly Val Arg Lys Ser Ser Ala Leu Ala Glu Tyr Ser Arg Leu Leu Ala
         515                   520                   525


<210> 5419
<211> 989
<212> DNA
<213> Homo sapiens


<400> 5419
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aagtacaggc gctactcgcg gtcatactcg cggagccggt cgcgatcccg cagccgccgt
120
taccgagaga ggcgctacgg gttcaccagg agatactacc ggtctccttc gcggtaccgg
180
tcccggtccc gtagcaggtc gcgctctcgg ggaaggtcgt actgcggaag ggcgtacgcg
240
atcgcgcggg gacagcgcta ctacggcttt ggtcgcacag tgtacccgga ggagcacagc
300
agatggaggg acagatccag gacgaggtcg cggagcagaa ccccctttcg cttaagtgaa
360
aaagatcgaa tggagctgtt agaaatagca aaaaccaatg cagcgaaagc tctaggaaca
420
accaacattg acttgccagc tagtctcaga actgttcctt cagccaaaga aacaagccgt
480
ggaataggtg tatcaagtaa tggtgcaaag cctgaaaaat catgaatgtg gtctgcagac
540
attgatgaag aaaatctgtt gctgtcggaa aaggtaacag aagatggaac tcgaaatccc
600
aatgaaaaac ctacccagca aagaagcata gcttttagct ctaataattc tgtagcaaag
660
ccaatacaaa aatcagctaa agctgccaca gaagaggcat cttcaagatc accaaaaata
720
gatcagaaaa aaagtccata tggactgtgg atacctatct aaaagaagaa aactgatggc
780
taagtttgca tgaaaactgc actttattgc aagttagtgt ttctagcatt atcccatccc
840
tttgagccat tcaggggtac ttgtgcattt aaaaaccaac acaaaaagat gtaaatactt
900
aacactcaaa tattaacatt ttaggtttct cttgcagata tgagagatag cacagatgga
960
ccaaaggtta tgcacaggtg ggagtcttt
989


<210> 5420
<211> 174
<212> PRT
<213> Homo sapiens


<400> 5420
Phe Ser Ser Arg Ser Arg Arg Ser Lys Ser Arg Ser Arg Ser Arg Arg
 1               5                   10                  15
Arg His Gln Arg Lys Tyr Arg Arg Tyr Ser Arg Ser Tyr Ser Arg Ser
```

4603

```
                  20                     25                     30
Arg Ser Arg Ser Arg Ser Arg Arg Tyr Arg Glu Arg Arg Tyr Gly Phe
            35                     40                     45
Thr Arg Arg Tyr Tyr Arg Ser Pro Ser Arg Tyr Arg Ser Arg Ser Arg
      50                     55                     60
Ser Arg Ser Arg Ser Arg Gly Arg Ser Tyr Cys Gly Arg Ala Tyr Ala
65                     70                     75                     80
Ile Ala Arg Gly Gln Arg Tyr Tyr Gly Phe Gly Arg Thr Val Tyr Pro
                  85                     90                     95
Glu Glu His Ser Arg Trp Arg Asp Arg Ser Arg Thr Arg Ser Arg Ser
            100                    105                    110
Arg Thr Pro Phe Arg Leu Ser Glu Lys Asp Arg Met Glu Leu Leu Glu
      115                    120                    125
Ile Ala Lys Thr Asn Ala Ala Lys Ala Leu Gly Thr Thr Asn Ile Asp
      130                    135                    140
Leu Pro Ala Ser Leu Arg Thr Val Pro Ser Ala Lys Glu Thr Ser Arg
145                    150                    155                    160
Gly Ile Gly Val Ser Ser Asn Gly Ala Lys Pro Glu Lys Ser
                  165                    170
```

```
<210> 5421
<211> 1239
<212> DNA
<213> Homo sapiens

<400> 5421
nccagctgcc gctgtcgtct ttgcttcagc cgcagtcgcc actggctgcc tgaggtgctc
60
ttacagcctg ttccaagtgt ggcttaatcc gtctccacca ccagatcttt ctccgtggat
120
tcctctgcta agaccgctgc catgccagtg acggtaaccc gcaccaccat cacaaccacc
180
acgacgtcat cttcgggcct ggggtccccc atgatcgtgg ggtcccctcg ggccctgaca
240
cagcccctgg gtctccttcg cctgctgcag ctggtgtcta cctgcgtggc cttctcgctg
300
gtggctagcg tgggcgcctg gacggggtcc atgggcaact ggtccatgtt cacctggtgc
360
ttctgcttct ccgtgaccct gatcatcctc atcgtggagc tgtgcgggct ccaggcccgc
420
ttcccctgt cttggcgcaa cttccccatc accttcgcct gctatgcggc cctcttctgc
480
ctctcggcct ccatcatcta ccccaccacc tatgtccagt tcctgtccca cggccgttcg
540
cgggaccacg ccatcgccgc caccttcttc tcctgcatcg cgtgtgtggc ttacgccacc
600
gaagtggcct ggacccgggc ccggcccggc gagatcactg ctatatggc caccgtaccc
660
gggctgctga aggtgctgga accttcgtt gcctgcatca tcttcgcgtt catcagcgac
720
cccaacctgt accagcacca gccggccctg gagtggtgcg tggcggtgta cgccatctgc
780
ttcatcctag cggccatcgc catcctgctg aacctggggg agtgcaccaa cgtgctaccc
840
```

```
atccccttcc ccagcttcct gtcggggctg gccttgtgtc tgtcctcctc tatgccaccg
900
cccttgttct ctggcccctc taccagttcg atgagaagta tggcggccag cctcggcgct
960
cgagagatgt aagctgcagc cgcagccatg cctactacgt gtgtgcctgg accgccgac
1020
tggctgtggc catcctgacg gccatcaacc tactggcgta tgtggctgac ctggtgcact
1080
ctgcccacct ggttttttgtc aaggtttaag actctcccaa gaggctcccg ttccctctcc
1140
aacctctttg ttcttgttgc ccgagttttc tttatggagt acttctttcc cccgcctttc
1200
gtctgttttc cttttcctgt ctcccctccc ttcacgcgt
1239


<210> 5422
<211> 276
<212> PRT
<213> Homo sapiens

<400> 5422
Met Pro Val Thr Val Thr Arg Thr Thr Ile Thr Thr Thr Thr Thr Ser
1               5                   10                  15
Ser Ser Gly Leu Gly Ser Pro Met Ile Val Gly Ser Pro Arg Ala Leu
            20                  25                  30
Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val Ser Thr Cys
            35                  40                  45
Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp Thr Gly Ser Met
        50                  55                  60
Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys Phe Ser Val Thr Leu
65                  70                  75                  80
Ile Ile Leu Ile Val Glu Leu Cys Gly Leu Gln Ala Arg Phe Pro Leu
                85                  90                  95
Ser Trp Arg Asn Phe Pro Ile Thr Phe Ala Cys Tyr Ala Ala Leu Phe
            100                 105                 110
Cys Leu Ser Ala Ser Ile Ile Tyr Pro Thr Thr Tyr Val Gln Phe Leu
            115                 120                 125
Ser His Gly Arg Ser Arg Asp His Ala Ile Ala Ala Thr Phe Phe Ser
        130                 135                 140
Cys Ile Ala Cys Val Ala Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala
145                 150                 155                 160
Arg Pro Gly Glu Ile Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu
            165                 170                 175
Lys Val Leu Glu Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser
            180                 185                 190
Asp Pro Asn Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala
            195                 200                 205
Val Tyr Ala Ile Cys Phe Ile Leu Ala Ala Ile Ala Ile Leu Leu Asn
        210                 215                 220
Leu Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
225                 230                 235                 240
Ser Gly Leu Ala Leu Cys Leu Ser Ser Ser Met Pro Pro Pro Leu Phe
            245                 250                 255
Ser Gly Pro Ser Thr Ser Ser Met Arg Ser Met Ala Ala Ser Leu Gly
```

```
                260                    265                    270
Ala Arg Glu Met
         275


<210> 5423
<211> 2427
<212> DNA
<213> Homo sapiens


<400> 5423
nccgcggctt tgcagagcag gatgaatgtg atagaccacg tgcgggacat ggcggccgcg
60
gggctgcact ccaacgtgcg gctcctcagc agcttgttac ttacaatgag taataacaac
120
cctgagttat tctccccacc tcagaagtac cagctttggg tgtatcatgc agattctctc
180
tttcatgata aggaatatcg gaatgctgtg agtaagtata ccatggcttt acagcagaag
240
aaagcgctaa gtaaaacttc aaaagtgaga ccttcaactg gaaattctgc atctactcca
300
caaagtcagt gtcttccatc tgaaattgaa gtgaaataca aaatggctga atgttataca
360
atgctaaaac aagataaaga tgccattgct atacttgatg ggatcccttc aagacaaaga
420
actcccaaaa taaacatgat gctggcaaac ctgtacaaga aggctggtca ggagcgccct
480
tcagtcacca gctataagga ggtgctgagg cagtgcccat tagcccttga tgccattcta
540
ggcttgttgt ccctttctgt aaaaggggca gaggtggcat ccatgacaat gaatgtgatc
600
caaaccgtgc ctaacttgga ctggctctct gtgtggatca aagcgtatgc ttttgtgcac
660
actggtgaca actcaagagc aatcagtacc atctgttcac tagagaaaaa atccttattg
720
cgagataacg tggacctatt gggaagcttg gcagatctgt acttcagagc tggagacaat
780
aaaaactctg tcctcaagtt tgaacaggca cagatgttgg atccttatct gataaaagga
840
atggatgtat atggctacct actggcacga gaaggcggc tagaggatgt tgagaacctt
900
ggatgccgcc ttttcaatat ctctgatcag catgcagaac cgtgggtggt ttctggctgt
960
cacagcttct atagcaaacg ctactcccgg gccctctatt taggagccaa ggccattcag
1020
ctgaacagta atagtgttca agctctgcta cttaagggag cagcacttag gaacatgggc
1080
agagtccaag aagcaataat ccactttcgg gaggccatac ggctcgcacc ttgtcgctta
1140
gattgttatg aaggtcttat cgaatgttac ttagcctcca acagtattcg agaagcaatg
1200
gtaatggcta caacgtttta caaaactctg ggagcaaatg cacagaccct tacccttta
1260
gccaccgttt gtcttgaaga cccagtgaca caggagaaag ccaaaacatt attagataaa
1320
```

```
gccctgaccc aaaggccaga ttacattaag gctgtggtga aaaaagcaga actacttagc
1380
agagaacaga aatatgaaga tggaattgct ttgctgagga acgcactggc taatcagagt
1440
gactgtgtcc tgcatcggat cctaggagat ttccttgtag ctgtcaatga gtatcaggag
1500
gcaatggacc agtatagtat agcactaagt ttggacccca atgaccagaa gtctctagag
1560
gggatgcaga agatggagaa ggaggagagt cccacggatg ccactcagga ggaggatgtg
1620
gacgacatgg aagggagtgg ggaagaaggg gacctggagg gcagcgacag tgaggcggcc
1680
cagtgggctg accaggagca gtggttcggc atgagtgagg gggcggcagc tccatggccg
1740
cagtggcctg ccctgctctg agcacttccg tggactgaag gaaccgtagg agcctgctct
1800
cagaaggaca atgattcagc atgtgattgc agcaggggtc tctgcccect cgctcccaat
1860
tcctagtcgt gacttcattt ctaaaacaga gcctgaccaa ccttccatgt atctccatcc
1920
tcccctgctc cagccaggga ggactgaggg agtgccccga gacccacgca catgttgggg
1980
cttctgggcc aagagtactt tttatataac taatttctaa atccaaaagc tcaaggaata
2040
gacagtgttc tgtgacatgg attggtttga aggagttacc caccatccca gcacgataat
2100
gtcatctccc aagttggatg gcagcacgat ctggccctag ggagcttcct gttcccagaa
2160
gtcattgtcc tgggctatcc agatgtccct agtaaatctt gcttccttct gcaatgttag
2220
taatgcctta agctgacagt tgctattttg cagaacagtt ttcctctttg cttagctagt
2280
aacttgcctc tgagcctggg ctgatctgag aaacaggtgt gacaagagca tgaaccagag
2340
gtgcacctgg ggcagttccc taataaaact ggtttgtaca gtcatggtgt tggggtgatc
2400
agaatggaag cccttttcaa aataaaa
2427
```

```
<210> 5424
<211> 570
<212> PRT
<213> Homo sapiens
```

```
<400> 5424
Met Ala Ala Ala Gly Leu His Ser Asn Val Arg Leu Leu Ser Ser Leu
1               5                   10                  15
Leu Leu Thr Met Ser Asn Asn Asn Pro Glu Leu Phe Ser Pro Pro Gln
            20                  25                  30
Lys Tyr Gln Leu Leu Val Tyr His Ala Asp Ser Leu Phe His Asp Lys
        35                  40                  45
Glu Tyr Arg Asn Ala Val Ser Lys Tyr Thr Met Ala Leu Gln Gln Lys
    50                  55                  60
Lys Ala Leu Ser Lys Thr Ser Lys Val Arg Pro Ser Thr Gly Asn Ser
```

4607

```
65                    70                    75                    80
Ala Ser Thr Pro Gln Ser Gln Cys Leu Pro Ser Glu Ile Glu Val Lys
                85                    90                    95
Tyr Lys Met Ala Glu Cys Tyr Thr Met Leu Lys Gln Asp Lys Asp Ala
            100                   105                   110
Ile Ala Ile Leu Asp Gly Ile Pro Ser Arg Gln Arg Thr Pro Lys Ile
        115                   120                   125
Asn Met Met Leu Ala Asn Leu Tyr Lys Lys Ala Gly Gln Glu Arg Pro
    130                   135                   140
Ser Val Thr Ser Tyr Lys Glu Val Leu Arg Gln Cys Pro Leu Ala Leu
145                   150                   155                   160
Asp Ala Ile Leu Gly Leu Leu Ser Leu Ser Val Lys Gly Ala Glu Val
                165                   170                   175
Ala Ser Met Thr Met Asn Val Ile Gln Thr Val Pro Asn Leu Asp Trp
            180                   185                   190
Leu Ser Val Trp Ile Lys Ala Tyr Ala Phe Val His Thr Gly Asp Asn
        195                   200                   205
Ser Arg Ala Ile Ser Thr Ile Cys Ser Leu Glu Lys Lys Ser Leu Leu
    210                   215                   220
Arg Asp Asn Val Asp Leu Leu Gly Ser Leu Ala Asp Leu Tyr Phe Arg
225                   230                   235                   240
Ala Gly Asp Asn Lys Asn Ser Val Leu Lys Phe Glu Gln Ala Gln Met
                245                   250                   255
Leu Asp Pro Tyr Leu Ile Lys Gly Met Asp Val Tyr Gly Tyr Leu Leu
            260                   265                   270
Ala Arg Glu Gly Arg Leu Glu Asp Val Glu Asn Leu Gly Cys Arg Leu
        275                   280                   285
Phe Asn Ile Ser Asp Gln His Ala Glu Pro Trp Val Val Ser Gly Cys
    290                   295                   300
His Ser Phe Tyr Ser Lys Arg Tyr Ser Arg Ala Leu Tyr Leu Gly Ala
305                   310                   315                   320
Lys Ala Ile Gln Leu Asn Ser Asn Ser Val Gln Ala Leu Leu Leu Lys
                325                   330                   335
Gly Ala Ala Leu Arg Asn Met Gly Arg Val Gln Glu Ala Ile Ile His
            340                   345                   350
Phe Arg Glu Ala Ile Arg Leu Ala Pro Cys Arg Leu Asp Cys Tyr Glu
        355                   360                   365
Gly Leu Ile Glu Cys Tyr Leu Ala Ser Asn Ser Ile Arg Glu Ala Met
    370                   375                   380
Val Met Ala Asn Asn Val Tyr Lys Thr Leu Gly Ala Asn Ala Gln Thr
385                   390                   395                   400
Leu Thr Leu Leu Ala Thr Val Cys Leu Glu Asp Pro Val Thr Gln Glu
                405                   410                   415
Lys Ala Lys Thr Leu Leu Asp Lys Ala Leu Thr Gln Arg Pro Asp Tyr
            420                   425                   430
Ile Lys Ala Val Val Lys Lys Ala Glu Leu Leu Ser Arg Glu Gln Lys
        435                   440                   445
Tyr Glu Asp Gly Ile Ala Leu Leu Arg Asn Ala Leu Ala Asn Gln Ser
    450                   455                   460
Asp Cys Val Leu His Arg Ile Leu Gly Asp Phe Leu Val Ala Val Asn
465                   470                   475                   480
Glu Tyr Gln Glu Ala Met Asp Gln Tyr Ser Ile Ala Leu Ser Leu Asp
                485                   490                   495
Pro Asn Asp Gln Lys Ser Leu Glu Gly Met Gln Lys Met Glu Lys Glu
```

```
               500                   505                   510
Glu Ser Pro Thr Asp Ala Thr Gln Glu Glu Asp Val Asp Asp Met Glu
           515                   520                   525
Gly Ser Gly Glu Glu Gly Asp Leu Glu Gly Ser Asp Ser Glu Ala Ala
       530                   535                   540
Gln Trp Ala Asp Gln Glu Gln Trp Phe Gly Met Ser Glu Gly Ala Ala
545                   550                   555                   560
Ala Pro Trp Pro Gln Trp Pro Ala Leu Leu
               565                   570
```

<210> 5425
<211> 639
<212> DNA
<213> Homo sapiens

<400> 5425
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cggccgccca tgtgatcaaa cggtatacag cccaggcgcc agatgagctg tcctttgagg
60
tgaggctgtg gggaagcaga ttccagctgg gctccccaca ccccctgctc cttctgaccc
120
ttctcttccc acccgccctc tcccaggtgg gagacattgt ctcggtgatc gacatgccac
180
ccacagagga tcggagctgg tggcggggca agcgaggctt ccaggtcggg ttcttcccca
240
gtgagtgtgt ggaactcttc acagagcggc caggtccggg cctgaaggcg gatgccgatg
300
gccccccatg tggcatcccg gctccccagg gtatctcgtc tctgacctca gctgtgccac
360
ggcctcgtgg gaagctggcc ggcctgctcc gcaccttcat gcgctcccgc ccttctcggc
420
agcggctgcg gcagcgggga atcctgcgac agagggtgtt tggctgcgat cttggcgagc
480
acctcagcaa ctcaggccag gatgtgccca gtgctgcgct gctgctccga gttcattgag
540
gccnacgggg tggtggatgg gatctaccgg ctctcaggcg tgtcttccaa catccagagg
600
cttcggcacg agtttgacag tgagaggata ccggagctg
639
```

<210> 5426
<211> 98
<212> PRT
<213> Homo sapiens

<400> 5426
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Pro Gln Leu Cys His Gly Leu Val Gly Ser Trp Pro Ala Cys Ser Ala
1               5                   10                  15
Pro Ser Cys Ala Pro Ala Leu Leu Gly Ser Gly Cys Gly Ser Gly Glu
           20                  25                  30
Ser Cys Asp Arg Gly Cys Leu Ala Ala Ile Leu Ala Ser Thr Ser Ala
       35                  40                  45
Thr Gln Ala Arg Met Cys Pro Val Leu Arg Cys Cys Ser Glu Phe Ile
   50                  55                  60
Glu Ala Xaa Gly Val Val Asp Gly Ile Tyr Arg Leu Ser Gly Val Ser
```

```
65                      70                  75                  80
Ser Asn Ile Gln Arg Leu Arg His Glu Phe Asp Ser Glu Arg Ile Pro
                85                  90                  95
Glu Leu


<210> 5427
<211> 366
<212> DNA
<213> Homo sapiens


<400> 5427
tgatcactgt attgcactcc agtctgggca acagagcaag actctgtcat aaacaaacca
60
acaaacaaat caaaaattct tgttgagtac ctgctacatg ctaagtgctc ctctaggtgc
120
tgaggataca tcagagggca aaatggatac agatactctg aaaaaacgtg cattctagct
180
gggattgggt cctccacact gtgtccaaaa ggtatgttgg ggttgctgaa gtagataaac
240
tggtattggc agcaggaaca gcatttatgg aacagagggg aagacacatt caaggaatga
300
aacatcgtct ggctggatca tgaaatgcaa ggcagatatg cacaggagg cagacaaagg
360
gttgaa
366


<210> 5428
<211> 101
<212> PRT
<213> Homo sapiens


<400> 5428
Met Phe His Ser Leu Asn Val Ser Ser Pro Leu Phe His Lys Cys Cys
1               5                   10                  15
Ser Cys Cys Gln Tyr Gln Phe Ile Tyr Phe Ser Asn Pro Asn Ile Pro
                20                  25                  30
Phe Gly His Ser Val Glu Asp Pro Ile Pro Ala Arg Met His Val Phe
            35                  40                  45
Ser Glu Tyr Leu Tyr Pro Phe Cys Pro Leu Met Tyr Pro Gln His Leu
        50                  55                  60
Glu Glu His Leu Ala Cys Ser Arg Tyr Ser Thr Arg Ile Phe Asp Leu
65                  70                  75                  80
Phe Val Gly Leu Phe Met Thr Glu Ser Cys Ser Val Ala Gln Thr Gly
                85                  90                  95
Val Gln Tyr Ser Asp
                100


<210> 5429
<211> 612
<212> DNA
<213> Homo sapiens


<400> 5429
```

ccggcgggcg gcaaggctcc gggccagcat gggggcttcg tggtgactgt caagcaagag
60
cgcggcgagg gtccacgcgc gggcgagaag gggtcccacg aggaggaggt gagagtccct
120
gcgctgagct gggggaggcc ccgggctccc gccccagcct cgaagccccg ccccaggctg
180
gatttgaatt gcttgtggct ccgcccacag cccattttcc tctggaagct gagaccccgc
240
cccgtgccag ctgccacgcc cctgacaggt cctctgccac tctaagtcca ggccccgccc
300
accgcacaat gccagctctg cccactctaa ggtcccgccc acttccactc cttggggggcg
360
gcaccctccc cttggtcctg tgggcccgtt ctccagcaga aaaccacgcc caccaagcag
420
aggccacgcc cacaaccgaa gtcaacgcca accctgtact caaacctcgg cccatagttc
480
ctcagatccc ctcacccctg gccagggatc cctctaaccc accgtgtccc gactgctgac
540
cgggccctac ctccatcttt tccgggttct tcctcccagc taggccccgc ccccatcccc
600
gcccatacgc gt
612

<210> 5430
<211> 94
<212> PRT
<213> Homo sapiens

<400> 5430
Pro Ala Gly Gly Lys Ala Pro Gly Gln His Gly Gly Phe Val Val Thr
1   5   10   15
Val Lys Gln Glu Arg Gly Glu Gly Pro Arg Ala Gly Glu Lys Gly Ser
            20   25   30
His Glu Glu Glu Val Arg Val Pro Ala Leu Ser Trp Gly Arg Pro Arg
        35   40   45
Ala Pro Ala Pro Ala Ser Lys Pro Arg Pro Arg Leu Asp Leu Asn Cys
    50   55   60
Leu Trp Leu Arg Pro Gln Pro Ile Phe Leu Trp Lys Leu Arg Pro Arg
65   70   75   80
Pro Val Pro Ala Ala Thr Pro Leu Thr Gly Pro Leu Pro Leu
                85   90

<210> 5431
<211> 3005
<212> DNA
<213> Homo sapiens

<400> 5431
nngcacgatg tcatccagca gctgccccca ccacattaca ggaccctgga gtacctgctg
60
aggcacctgg cccgcatggc gagacacagt gccaacacca gcatgcatgc ccgcaacctg
120
gccattgtct gggcacccaa cctgctacgg tccatggagc tggagtcagt gggaatgggt
180

```
ggcgcggcgg cgttccggga agttcgggtg cagtcggtgg tggtggagtt tctgctcacc
240
catgtggacg tcctgttcag cgacaccttc acctccgccg gcctcgaccc tgcaggccgc
300
tgcctgctcc ccaggcccaa gtcccttgcg ggcagctgcc cctccacccg cctgctgacg
360
ctggaggaag cccaggcacg cacccagggc cggctgggga cgcccacgga gcccacaact
420
cccaaggccc cggcctcacc tgcggaaagg aggaaagggg agagagggga gaagcagcgg
480
aagccagggg gcagcagctg gaagacgttc tttgcactgg ccgggggccc cagtgtccct
540
cgaaagaagc ccctgccctg gctggggggc acccgtgccc caccgcagcc ttcaggcagc
600
agacccgaca ccgtcacact gagatctgcc aagagcgagg agtctctgtc atcgcaggcc
660
agcgggggctg gcctccagag gctgcacagg ctgcggcgac cccactccag cagcgacgct
720
ttccctgtgg gcccagcacc tgctggctcc tgcgagagcc tgtcctcgtc ctcctcctcc
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840
gcactctctg ggtctccctc acaccgtacc tcagcctggc tagatgatgg tgatgagctg
900
gacttcagcc caccccgctg cctggaggga ctccgggggc tggactttga tcccttaacc
960
ttccgctgca gcagccccac cccagggggat cccgcacctc ccgccagccc agcacccccc
1020
gcccctgcct ctgccttccc acccagggtg acccccccagg ccatctcgcc ccggggggccc
1080
accagccccg cctcgcctgc tgccctagac atctcagagc ccctggctgt atcagtgcca
1140
cccgctgtcc tagaactgct gggggctggg ggagcacctg cctcagccac cccaacacca
1200
gctctcagcc ccggccggag cctgcgcccc catctcatac ccctgctgct gcgaggagcc
1260
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1320
ggcccactcg gtcctgatat ggagtcacca ctgccacccc ctcccctgtc tctcctgcgc
1380
cctgggggtg ccccacccccc gccccctaag aacccagcac gcctcatggc cctggccctg
1440
gctgagcggg ctcagcaggt ggccgagcaa cagagccagc aggagtgtgg gggcacccca
1500
cctgcttccc aatcccccttt ccaccgctcg ctgtctctgg aggtgggcgg ggagcccctg
1560
gggacctcag ggagtgggcc acctcccaac tccctagcac acccgggtgc ctgggtcccg
1620
ggaccccccac cctacttacc aaggcaacaa agtgatggga gcctgctgag gagccagcgg
1680
cccatgggga cctcaaggag gggactccga ggccctgccc aggtcagtgc gcagctcagg
1740
gcaggtggcg ggggcaggga tgcgccagag gcagcagccc agtccccatg ttctgtcccc
1800
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tcacaggttc ctacccccgg cttcttctcc ccagccccca gggagtgcct gccacccttc
1860
ctcggggtcc ccaagccagg cttgtacccc ctgggccccc catccttcca gcccagttcc
1920
ccagccccag tctggaggag ctctctgggc ccccctgcac cactcgacag gggagagaac
1980
ctgtactatg agatcggggc aagtgagggg tcccccctatt ctggccccac ccgctcctgg
2040
agtccctttc gctccatgcc ccccgacagg ctcaatgcct cctacggcat gcttggccaa
2100
tcacccccac tccacaggtc ccccgacttc ctgctcagct acccgccagc cccctcctgc
2160
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2220
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2280
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2340
cgccttcccc agaaacaacg ggcaccctgg ggaccccgta cccctcatag ggtgccgggt
2400
ccctggggcc ctcctgagcc tctcctgctc tacagggcag ccccgccagc ctacggaagg
2460
gggggcgagc tccaccgagg gtccttgtac agaaatggag ggcaaagagg ggaggggggct
2520
ggtcccccac ccccttaccc cactcccagc tggtccctcc actctgaggg ccagacccga
2580
agctactgct gagcaccagc tgggaggggc cgtccttcct tcccttcacc ctcactggat
2640
cttggcccaa ccaaatccct tgttttgtat tttcttgaac cccgaccact accccaggtt
2700
tctaactttg taacttgctt ctgatgtggg tccctaacct ataatctcag cttccctacc
2760
ctggactgaa gggtctgccc atcccccac caccctccat cctggggggcc ctcgcacaaa
2820
tctggggtgg gaggggctag gctgacccca tcctcctctc cctccaggag ccccccagcat
2880
gtcctgacct gtgcacgggg atgggggggac aactcctacc cttctttccc cacatgcccc
2940
actaaaccat ctgacaacat taatgaataa aatggtgaaa atgtgaaaaa aaaaaaaaaa
3000
aaaaa
3005


<210> 5432
<211> 863
<212> PRT
<213> Homo sapiens

<400> 5432
Xaa His Asp Val Ile Gln Gln Leu Pro Pro Pro His Tyr Arg Thr Leu
1               5                   10                  15
Glu Tyr Leu Leu Arg His Leu Ala Arg Met Ala Arg His Ser Ala Asn
            20                  25                  30
Thr Ser Met His Ala Arg Asn Leu Ala Ile Val Trp Ala Pro Asn Leu
```

4613

```
              35                    40                    45
Leu Arg Ser Met Glu Leu Glu Ser Val Gly Met Gly Gly Ala Ala Ala
    50                    55                    60
Phe Arg Glu Val Arg Val Gln Ser Val Val Val Glu Phe Leu Leu Thr
65                    70                    75                    80
His Val Asp Val Leu Phe Ser Asp Thr Phe Thr Ser Ala Gly Leu Asp
                  85                    90                    95
Pro Ala Gly Arg Cys Leu Leu Pro Arg Pro Lys Ser Leu Ala Gly Ser
                 100                   105                   110
Cys Pro Ser Thr Arg Leu Leu Thr Leu Glu Glu Ala Gln Ala Arg Thr
                 115                   120                   125
Gln Gly Arg Leu Gly Thr Pro Thr Glu Pro Thr Thr Pro Lys Ala Pro
            130                   135                   140
Ala Ser Pro Ala Glu Arg Arg Lys Gly Glu Arg Gly Glu Lys Gln Arg
145                   150                   155                   160
Lys Pro Gly Gly Ser Ser Trp Lys Thr Phe Phe Ala Leu Gly Arg Gly
                 165                   170                   175
Pro Ser Val Pro Arg Lys Lys Pro Leu Pro Trp Leu Gly Gly Thr Arg
                 180                   185                   190
Ala Pro Pro Gln Pro Ser Gly Ser Arg Pro Asp Thr Val Thr Leu Arg
            195                   200                   205
Ser Ala Lys Ser Glu Glu Ser Leu Ser Ser Gln Ala Ser Gly Ala Gly
    210                   215                   220
Leu Gln Arg Leu His Arg Leu Arg Arg Pro His Ser Ser Ser Asp Ala
225                   230                   235                   240
Phe Pro Val Gly Pro Ala Pro Ala Gly Ser Cys Glu Ser Leu Ser Ser
                 245                   250                   255
Ser Ser Ser Ser Glu Ser Ser Ser Ser Glu Ser Ser Ser Ser Ser Ser
            260                   265                   270
Glu Ser Ser Ala Ala Gly Leu Gly Ala Leu Ser Gly Ser Pro Ser His
            275                   280                   285
Arg Thr Ser Ala Trp Leu Asp Asp Gly Asp Glu Leu Asp Phe Ser Pro
    290                   295                   300
Pro Arg Cys Leu Glu Gly Leu Arg Gly Leu Asp Phe Asp Pro Leu Thr
305                   310                   315                   320
Phe Arg Cys Ser Ser Pro Thr Pro Gly Asp Pro Ala Pro Pro Ala Ser
                 325                   330                   335
Pro Ala Pro Pro Ala Pro Ala Ser Ala Phe Pro Pro Arg Val Thr Pro
            340                   345                   350
Gln Ala Ile Ser Pro Arg Gly Pro Thr Ser Pro Ala Ser Pro Ala Ala
            355                   360                   365
Leu Asp Ile Ser Glu Pro Leu Ala Val Ser Val Pro Pro Ala Val Leu
    370                   375                   380
Glu Leu Leu Gly Ala Gly Gly Ala Pro Ala Ser Ala Thr Pro Thr Pro
385                   390                   395                   400
Ala Leu Ser Pro Gly Arg Ser Leu Arg Pro His Leu Ile Pro Leu Leu
                 405                   410                   415
Leu Arg Gly Ala Glu Ala Pro Leu Thr Asp Ala Cys Gln Gln Glu Met
            420                   425                   430
Cys Ser Lys Leu Arg Gly Ala Gln Gly Pro Leu Gly Pro Asp Met Glu
            435                   440                   445
Ser Pro Leu Pro Pro Pro Leu Ser Leu Leu Arg Pro Gly Gly Ala
    450                   455                   460
Pro Pro Pro Pro Pro Lys Asn Pro Ala Arg Leu Met Ala Leu Ala Leu
```

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465                     470                     475                     480
Ala Glu Arg Ala Gln Gln Val Ala Glu Gln Gln Ser Gln Gln Glu Cys
                485                     490                     495
Gly Gly Thr Pro Pro Ala Ser Gln Ser Pro Phe His Arg Ser Leu Ser
                500                     505                     510
Leu Glu Val Gly Gly Glu Pro Leu Gly Thr Ser Gly Ser Gly Pro Pro
                515                     520                     525
Pro Asn Ser Leu Ala His Pro Gly Ala Trp Val Pro Gly Pro Pro Pro
            530                     535                     540
Tyr Leu Pro Arg Gln Gln Ser Asp Gly Ser Leu Leu Arg Ser Gln Arg
545                     550                     555                     560
Pro Met Gly Thr Ser Arg Arg Gly Leu Arg Gly Pro Ala Gln Val Ser
                565                     570                     575
Ala Gln Leu Arg Ala Gly Gly Gly Gly Arg Asp Ala Pro Glu Ala Ala
                580                     585                     590
Ala Gln Ser Pro Cys Ser Val Pro Ser Gln Val Pro Thr Pro Gly Phe
                595                     600                     605
Phe Ser Pro Ala Pro Arg Glu Cys Leu Pro Pro Phe Leu Gly Val Pro
            610                     615                     620
Lys Pro Gly Leu Tyr Pro Leu Gly Pro Pro Ser Phe Gln Pro Ser Ser
625                     630                     635                     640
Pro Ala Pro Val Trp Arg Ser Ser Leu Gly Pro Pro Ala Pro Leu Asp
                645                     650                     655
Arg Gly Glu Asn Leu Tyr Tyr Glu Ile Gly Ala Ser Glu Gly Ser Pro
                660                     665                     670
Tyr Ser Gly Pro Thr Arg Ser Trp Ser Pro Phe Arg Ser Met Pro Pro
                675                     680                     685
Asp Arg Leu Asn Ala Ser Tyr Gly Met Leu Gly Gln Ser Pro Pro Leu
            690                     695                     700
His Arg Ser Pro Asp Phe Leu Leu Ser Tyr Pro Pro Ala Pro Ser Cys
705                     710                     715                     720
Phe Pro Pro Asp His Leu Gly Tyr Ser Ala Pro Gln His Pro Ala Arg
                725                     730                     735
Arg Pro Thr Pro Pro Glu Pro Leu Tyr Val Asn Leu Ala Leu Gly Pro
                740                     745                     750
Arg Gly Pro Ser Pro Ala Ser Ser Ser Ser Ser Pro Pro Ala His
                755                     760                     765
Pro Arg Ser Arg Ser Asp Pro Gly Pro Pro Val Pro Arg Leu Pro Gln
                770                     775                     780
Lys Gln Arg Ala Pro Trp Gly Pro Arg Thr Pro His Arg Val Pro Gly
785                     790                     795                     800
Pro Trp Gly Pro Pro Glu Pro Leu Leu Leu Tyr Arg Ala Ala Pro Pro
                805                     810                     815
Ala Tyr Gly Arg Gly Gly Glu Leu His Arg Gly Ser Leu Tyr Arg Asn
                820                     825                     830
Gly Gly Gln Arg Gly Glu Gly Ala Gly Pro Pro Pro Pro Tyr Pro Thr
                835                     840                     845
Pro Ser Trp Ser Leu His Ser Glu Gly Gln Thr Arg Ser Tyr Cys
850                     855                     860
```

<210> 5433
<211> 385
<212> DNA
<213> Homo sapiens

<400> 5433
gatctaacca acctccacta ctcgacaccc ctgccagcct ccctggacac caccgaccac
60
cactttggca gtatgagtgt ggggaatagt gtgaacaaca tcccagctgc tatgacccac
120
ctgggtataa gaagctcctc tggtctccag agttctcgga gtaacccctc catccaagcc
180
acgctcaata agactgtgct ttcctcttcc ttaaataacc acccacagac atctgttccc
240
aacgcatctg ctcttcaccc ttcgctccgt ctgttttccc ttagcaaccc atctctttcc
300
accacaaacc tgagcggccc gtctcggcgt cggcagcctc ccgtcagccc tctcacgctt
360
tctcctggcc ctgaagcaca tcaag
385

<210> 5434
<211> 128
<212> PRT
<213> Homo sapiens

<400> 5434
Asp Leu Thr Asn Leu His Tyr Ser Thr Pro Leu Pro Ala Ser Leu Asp
1   5   10   15
Thr Thr Asp His His Phe Gly Ser Met Ser Val Gly Asn Ser Val Asn
                20   25   30
Asn Ile Pro Ala Ala Met Thr His Leu Gly Ile Arg Ser Ser Ser Gly
            35   40   45
Leu Gln Ser Ser Arg Ser Asn Pro Ser Ile Gln Ala Thr Leu Asn Lys
        50   55   60
Thr Val Leu Ser Ser Ser Leu Asn Asn His Pro Gln Thr Ser Val Pro
65   70   75   80
Asn Ala Ser Ala Leu His Pro Ser Leu Arg Leu Phe Ser Leu Ser Asn
                85   90   95
Pro Ser Leu Ser Thr Thr Asn Leu Ser Gly Pro Ser Arg Arg Arg Gln
            100   105   110
Pro Pro Val Ser Pro Leu Thr Leu Ser Pro Gly Pro Glu Ala His Gln
        115   120   125

<210> 5435
<211> 617
<212> DNA
<213> Homo sapiens

<400> 5435
ctcacacctg taatcacagc actttgggag gctgaggtgt gagccactgc tcctggcttg
60
aaacagataa ttctttatat tcaacctgtt gtcaaaattt ttagaaacat tttcccagtt
120
ccttgtataa gtatactttg tataacttct ggcaaccat aattatgaac tcacattact
180
atagtactat aatactgcag aaagggatct tgcgtttcag aaatgtcact catccagttt
240

tcctcccctt tctctaaccc catctccctc ccaggctcat ggtttctgtt gcaatcctct
300
ttctccttac acaaggcaag aagttttctt accaatagat cagacctgtg aaggactgcc
360
cgacatgatc tgatatggtt gttcttcatt ttgggctgta gtattttaaa gtagaggttt
420
gctctgatgg tcccatcact gcttgccatt gtctttccct ttgctctagc tatcagggga
480
tgttgcttta agtttgttcc ccaggcttta ctgccaagag ggaaattcat acccacttta
540
acaaggtgtg aagcttatct tacagttgct aatgcctcac tgaccttttg gaaaggtcat
600
agttaccctt cacgcgt
617

<210> 5436
<211> 119
<212> PRT
<213> Homo sapiens

<400> 5436
Met Asn Phe Pro Leu Gly Ser Lys Ala Trp Gly Thr Asn Leu Lys Gln
1   5   10   15
His Pro Leu Ile Ala Arg Ala Lys Gly Lys Thr Met Ala Ser Ser Asp
            20   25   30
Gly Thr Ile Arg Ala Asn Leu Tyr Phe Lys Ile Leu Gln Pro Lys Met
            35   40   45
Lys Asn Asn His Ile Arg Ser Cys Arg Ala Val Leu His Arg Ser Asp
        50   55   60
Leu Leu Val Arg Lys Leu Leu Ala Leu Cys Lys Glu Lys Glu Asp Cys
65   70   75   80
Asn Arg Asn His Glu Pro Gly Arg Glu Met Gly Leu Glu Lys Gly Glu
                85   90   95
Glu Asn Trp Met Ser Asp Ile Ser Glu Thr Gln Asp Pro Phe Leu Gln
                100   105   110
Tyr Tyr Ser Thr Ile Val Met
            115

<210> 5437
<211> 1422
<212> DNA
<213> Homo sapiens

<400> 5437
ttccgcggtg gaggggtgct atactgggat gcaggcgcgg cggggactgg cagcaatcat
60
gccctgggag ctaacgtaga gctttggata atgcttttgc aagttgtacg agaagggaag
120
ttctcggggt ttctgacctc ctgcagcctc ctcttgcctc gggctgccca gatcttggcg
180
gctgaggctg gcttaccttc gagccgttcc ttcatgggat ttgctgctcc cttcaccaac
240
aagcgaaagg cttactcgga gcgtagaatc atggggtact caatgcagga gatgtatgag
300

```
gtggtgtcca acgtccagga gtatcgtgag tttgtgccct ggtgtaagaa gtctctggtg
360
gtatccagcc gtaagggtca tttgaaagcc cagctggagg ttggctttcc acctgtcatg
420
gaacgttaca cctctgcagt ttccatggtc aaacctcaca tggtcaaggc tgtttgtact
480
gatggcaagc tcttcaacca cttagagact atttggcgat tcagccctgg tattcctgcc
540
tatcctcgaa cctgcactgt ggactttttcg atttcctttg aatttcgttc tctgctgcac
600
tcccagctgg ccaccatgtt ttttgatgag gttgtcaaac agaatgttgc tgcctttgag
660
cgtcgggcag ccaccaagtt tggtccagaa acagccatcc cccgtgaact gatgttccat
720
gaggtgcacc agacttgagg caagggattg ctccctgacc tcccttctac cccacttccc
780
tacacaattc tcttatttat ttggtttggc tcctgttcca atttgaaagg agtctgtgtt
840
cataatactg tttctcctct caatttccca gaaattgggt tctatgctgg ctggaaatgt
900
tgggggaaag agaaggcaaa ggatgtggaa atgagatgtg cttaggaaag ggtcaggccc
960
atcgtaggag caccatatgc ctgcagcctt ttcactacga attagaataa ggactatgtg
1020
gttgtctctg accttatca agacacctta gtgtctgacc aggggacgat agtaactttt
1080
ctaaggattg aataaattga gcttttcttc tggcacagag gtactgagtg gtaagtaact
1140
tttaccctgc ctgagattcc tcaggagaaa aggcaacctg cctccagcct gaaatacata
1200
aagcctcatt ttaagactgt aagtccatgc tgcctggcta ctagagagca aggggctttc
1260
ttaccaccag tgctgaggag aaaagtactg aacggaaacg gagttgtctt tgtactcttg
1320
agttgtacct tattcttcca cttggcctga gttttataa aatttcaata aattgtgaca
1380
gtgtgaaaaa aaaaaaaaaa aaaaaaaaaa aa
1422


<210> 5438
<211> 245
<212> PRT
<213> Homo sapiens

<400> 5438
Phe Arg Gly Gly Gly Val Leu Tyr Trp Asp Ala Gly Ala Ala Gly Thr
 1               5                  10                  15
Gly Ser Asn His Ala Leu Gly Ala Asn Val Glu Leu Trp Ile Met Leu
            20                  25                  30
Leu Gln Val Val Arg Glu Gly Lys Phe Ser Gly Phe Leu Thr Ser Cys
        35                  40                  45
Ser Leu Leu Leu Pro Arg Ala Ala Gln Ile Leu Ala Ala Glu Ala Gly
    50                  55                  60
Leu Pro Ser Ser Arg Ser Phe Met Gly Phe Ala Ala Pro Phe Thr Asn
```

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65                    70                    75                    80
Lys Arg Lys Ala Tyr Ser Glu Arg Arg Ile Met Gly Tyr Ser Met Gln
                    85                    90                    95
Glu Met Tyr Glu Val Val Ser Asn Val Gln Glu Tyr Arg Glu Phe Val
            100                   105                   110
Pro Trp Cys Lys Lys Ser Leu Val Val Ser Ser Arg Lys Gly His Leu
            115                   120                   125
Lys Ala Gln Leu Glu Val Gly Phe Pro Pro Val Met Glu Arg Tyr Thr
        130                   135                   140
Ser Ala Val Ser Met Val Lys Pro His Met Val Lys Ala Val Cys Thr
145                   150                   155                   160
Asp Gly Lys Leu Phe Asn His Leu Glu Thr Ile Trp Arg Phe Ser Pro
                165                   170                   175
Gly Ile Pro Ala Tyr Pro Arg Thr Cys Thr Val Asp Phe Ser Ile Ser
            180                   185                   190
Phe Glu Phe Arg Ser Leu Leu His Ser Gln Leu Ala Thr Met Phe Phe
            195                   200                   205
Asp Glu Val Val Lys Gln Asn Val Ala Ala Phe Glu Arg Arg Ala Ala
    210                   215                   220
Thr Lys Phe Gly Pro Glu Thr Ala Ile Pro Arg Glu Leu Met Phe His
225                   230                   235                   240
Glu Val His Gln Thr
                245
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<210> 5439
<211> 4234
<212> DNA
<213> Homo sapiens
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<400> 5439
ggaggttctt cactcgcgac tgacggagct gcggtggcgt ctccacacgc aaccatgaag
60
ttgaaggaca caaaatcaag gccaaagcag tcaagctgtg gcaaatttca gacaaaggga
120
atcaaagttg tgggaaaatg gaaggaagtg aagattgacc caaatatgtt tgcagatgga
180
cagatggatg acttggtgtg ctttgaggaa ttgacagatt accagttggt ctcccctgcc
240
aagaatccct ccagtctctt ctcaaaggaa gcacccaaga gaaaggcaca agctgtttca
300
gaagaagagg aggaggagga gggaaagtct agctcaccaa agaaaaagat caagttgaag
360
aaaagtaaaa atgtagcaac tgaaggaacc agtacccaga agaatttga agtgaaagat
420
cctgagctgg aggcccaggg agatgacatg gtttgtgatg atccggaggc tggggagatg
480
acatcagaaa acctggtcca aactgctcca aaaagaaga aaaataaagg gaaaaaaggg
540
ttggagcctt ctcagagcac tgctgccaag gtgcccaaaa aagcgaagac atggattcct
600
gaagttcatg atcagaaagc agatgtgtca gcttggaagg acctgtttgt tcccaggccg
660
gttctccgag cactcagctt tctaggcttc tctgcaccca caccaatcca agccctgacc
720
```

```
ttggcacctg ccatccgtga caaactggac atccttgggg ctgctgagac aggaagtggg
780
aaaactcttg cctttgccat cccaatgatt catgcggtgt tgcagtggca gaagaggaat
840
gctgcccctc ctccaagtaa caccgaagca ccacctggag agaccagaac tgaggccgga
900
gctgagacta gatcaccagg caaggctgaa gctgagtctg atgcattgcc tgacgatact
960
gtaattgaga gtgaagcact gcccagtgat attgcagccg aggccagagc caagactgga
1020
ggcactgtct cagaccaggc gttgctcttt ggtgacgatg atgctggtga agggccttct
1080
tccctgatca gggagaaacc tgttcccaaa cagaatgaga atgaggagga aaatcttgat
1140
aaagagcaga ctggaaatct aaaacaggag ttggatgaca aaagcgccac ctgtaaggca
1200
tatccaaagc gtcctctgct tggactggtt ctgactccca ctcgagagct ggccgtccag
1260
gtcaaacagc acattgatgc tgtggccagg tttacaggaa ttaaaactgc tattttggtt
1320
ggtggaatgt ccacgcagaa acagcagagg atgctgaacc gtcgtcctga gattgtggtt
1380
gctactccag gccggctgtg ggaattaatt aaagaaaagc attatcattt gaggaacctt
1440
cggcagctca ggtgcctggt agtggatgag gctgaccgga tggttgagaa aggccatttt
1500
gctgagctct cacagctgct agagatgctc aatgactccc aatacaaccc aaagagacaa
1560
acgcttgttt tttctgccac actcaccctg gtgcatcagg ctcctgctcg aatccttcat
1620
aagaagcaca ccaagaaaat ggataaaaca gccaaacttg acctccttat gcagaaaatt
1680
ggcatgaggg gcaagcccaa ggtcattgac ctcacaagga atgaggccac ggtggagacg
1740
ctaacagaga ccaagatcca ttgtgagact gatgagaaag acttctactt gtactacttc
1800
ctgatgcagt atccaggccg cagcttagtg tttgccaaca gtatctcctg catcaaacgc
1860
ctctctgggc tcctcaaagt ccttgatatc atgcccttga ccctgcatgc ctgtatgcac
1920
cagaagcaga ggctcagaaa cctggagcag tttgcccgtc tggaagactg tgttctcttg
1980
gcaacagatg tggcggctcg gggtctggat attcctaaag tccagcatgt catccattac
2040
caggtcccac gtacctcgga gatttatgtc caccgaagtg gtcgaactgc tcgagctacc
2100
aatgaaggcc tcagtctgat gctcattggg cctgaggatg tgatcaactt taagaagatt
2160
tacaaaacgc tcaagaaaga tgaggatatc ccactgttcc ccgtgcagac aaaatacatg
2220
gatgtggtca aggagcgaat ccgtttagct cgacagattg agaaatctga gtatcggaac
2280
ttccaggctt gcctgcacaa ctcttggatt gagcaggcag cagctgccct ggagattgag
2340
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4620

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ctggaagaag acatgtataa gggaggaaaa gctgaccagc aagaagaacg tcggagacaa
2400
aagcagatga aggttctgaa gaaggagctg cgccacctgc tgtcccagcc actgtttacg
2460
gagagccaga aaaccaagta tcccactcag tctggcaagc cgcccctgct tgtgtctgcc
2520
ccaagtaaga gcgagtctgc tttgagctgt ctctccaagc agaagaagaa gaagacaaag
2580
aagccgaagg agccacagcc ggaacagcca cagccaagta caagtgcaaa ttaactgccc
2640
tggtcaagtg tgtcagtgac tgcacattgg tttctgttct ctggctattt gcaaaacctc
2700
tcccaccctt gtgtttcact ccaccaccaa ccccaggtaa aaaagtctcc ctctcttcca
2760
ctcacaccca tagcgggaga gacctcatgc agatttgcat tgttttggag taagaattca
2820
atgcagcagc ttaatttttc tgtattgcag tgtttatagg cttcttgtgt gttaaacttg
2880
atttcataaa ttaaaaacaa tggtcagaaa aaaaaaaaaa accggaaccg gcggcaccag
2940
ctcggagaga aatcgatgtt gtagtgacct tcagtaaaag agcggttttt catagaggtg
3000
ccgtttttaga ctacctattt aagaggcacg aaaaacaaat acatctaata ggttaagtaa
3060
aaaaccatct atttcggaca ataaaagtta ttttctacac acgttggtct tcattttact
3120
cgttaacagt atcatacatc cttctaagct tatctttttg acgtgaaagt gtagtagtat
3180
gtctccacct ggcagctatg tagttaatat ttttgtctgt tgtaatgtta tcaagtaccg
3240
aacattttcc taatgaaata gtggaaaaga caaccttttt ctccatttct atttggattt
3300
ttagatcacg tacataacaa ggaatcgaat aaataatgaa gtgttttata aagagtatcc
3360
gtcttggagg gagattccag ttgggaggtt ccataggcag ttcttaccaa gaagatgtcg
3420
attccattct ccaacaccca ctaccgaatt ccacaaggat ttgggaatct tcttgaaggg
3480
ctgacacgcg agattctgag agagcaaccg gacaatatac cagcttttgc agcagcctat
3540
tttgagagcc ttctagagaa aagagagaaa accaactttg atccagcaga atggggggagt
3600
aaggtagaag accgcttcta taacaatcat gcattcgagg agcaagaacc acctgagaaa
3660
agtgatccta aacaagaaga gtctcagata tctgggaagg aggaagagac atcagtcacc
3720
atcttagact cttctgagga agataaggaa aaagaagagg ttgctgctgt caaaatccaa
3780
gctgccttcc ggggacacat agccagagag gaggcaaaga aaatgaaaac aaatagtctt
3840
caaaatgagg aaaaagagga aaacaagtga ggacactggt tttacctcca ggaaacatga
3900
aaaataatcc aaatccatca accttcttat taatgtcatt tctccttgag gaaggaagat
3960
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4621

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ttgatgttgt gaaataacat tcgttactgt tgtgaaaatc tgtcatgagc atttgtttaa
4020
taagcatacc attgaaacat gccacttgaa gatttctctg agatcatgag tttgtttaca
4080
cttgtctcaa gcctatctat agagaccctt ggatttagaa ttatagaact aaagtatctg
4140
agattacaga gatctcagag gttatgtgtt ctaactatta tcaaatgaat aaatcctctc
4200
tatcacatcc cccaaaaaaa aaaaaaaaaa aaaa
4234


<210> 5440
<211> 461
<212> PRT
<213> Homo sapiens

<400> 5440
Leu Ala Val Gln Val Lys Gln His Ile Asp Ala Val Ala Arg Phe Thr
 1               5                  10                  15
Gly Ile Lys Thr Ala Ile Leu Val Gly Gly Met Ser Thr Gln Lys Gln
                20                  25                  30
Gln Arg Met Leu Asn Arg Arg Pro Glu Ile Val Val Ala Thr Pro Gly
                35                  40                  45
Arg Leu Trp Glu Leu Ile Lys Glu Lys His Tyr His Leu Arg Asn Leu
    50                  55                  60
Arg Gln Leu Arg Cys Leu Val Val Asp Glu Ala Asp Arg Met Val Glu
65                  70                  75                  80
Lys Gly His Phe Ala Glu Leu Ser Gln Leu Leu Glu Met Leu Asn Asp
                85                  90                  95
Ser Gln Tyr Asn Pro Lys Arg Gln Thr Leu Val Phe Ser Ala Thr Leu
                100                 105                 110
Thr Leu Val His Gln Ala Pro Ala Arg Ile Leu His Lys Lys His Thr
        115                 120                 125
Lys Lys Met Asp Lys Thr Ala Lys Leu Asp Leu Leu Met Gln Lys Ile
    130                 135                 140
Gly Met Arg Gly Lys Pro Lys Val Ile Asp Leu Thr Arg Asn Glu Ala
145                 150                 155                 160
Thr Val Glu Thr Leu Thr Glu Thr Lys Ile His Cys Glu Thr Asp Glu
                165                 170                 175
Lys Asp Phe Tyr Leu Tyr Tyr Phe Leu Met Gln Tyr Pro Gly Arg Ser
                180                 185                 190
Leu Val Phe Ala Asn Ser Ile Ser Cys Ile Lys Arg Leu Ser Gly Leu
        195                 200                 205
Leu Lys Val Leu Asp Ile Met Pro Leu Thr Leu His Ala Cys Met His
    210                 215                 220
Gln Lys Gln Arg Leu Arg Asn Leu Glu Gln Phe Ala Arg Leu Glu Asp
225                 230                 235                 240
Cys Val Leu Leu Ala Thr Asp Val Ala Ala Arg Gly Leu Asp Ile Pro
                245                 250                 255
Lys Val Gln His Val Ile His Tyr Gln Val Pro Arg Thr Ser Glu Ile
                260                 265                 270
Tyr Val His Arg Ser Gly Arg Thr Ala Arg Ala Thr Asn Glu Gly Leu
    275                 280                 285
Ser Leu Met Leu Ile Gly Pro Glu Asp Val Ile Asn Phe Lys Lys Ile
```

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         290                    295                    300
Tyr Lys Thr Leu Lys Lys Asp Glu Asp Ile Pro Leu Phe Pro Val Gln
305                    310                    315                    320
Thr Lys Tyr Met Asp Val Val Lys Glu Arg Ile Arg Leu Ala Arg Gln
                   325                    330                    335
Ile Glu Lys Ser Glu Tyr Arg Asn Phe Gln Ala Cys Leu His Asn Ser
                   340                    345                    350
Trp Ile Glu Gln Ala Ala Ala Ala Leu Glu Ile Glu Leu Glu Glu Asp
            355                    360                    365
Met Tyr Lys Gly Gly Lys Ala Asp Gln Gln Glu Glu Arg Arg Arg Gln
      370                    375                    380
Lys Gln Met Lys Val Leu Lys Lys Glu Leu Arg His Leu Leu Ser Gln
385                    390                    395                    400
Pro Leu Phe Thr Glu Ser Gln Lys Thr Lys Tyr Pro Thr Gln Ser Gly
                   405                    410                    415
Lys Pro Pro Leu Leu Val Ser Ala Pro Ser Lys Ser Glu Ser Ala Leu
                   420                    425                    430
Ser Cys Leu Ser Lys Gln Lys Lys Lys Thr Lys Lys Pro Lys Glu
            435                    440                    445
Pro Gln Pro Glu Gln Pro Gln Pro Ser Thr Ser Ala Asn
      450                    455                    460
```

```
<210> 5441
<211> 1635
<212> DNA
<213> Homo sapiens

<400> 5441
ncagacacac tgtgacggct gcctgaagct agtgagtcgc ggcgccgcgc actggtggtt
60
gggtcagtgc cgcgcgccga tcggtcgtta ccgcgaggcg ctggtggcct tcaggctgga
120
cggcgcgggt cagccctggt tcgccggctt ctgggtcttt gaacagccgc gatgtcgatc
180
ttcacccca ccaaccagat ccgcctaacc aatgtggccg tggtacggat gaagcgtgcc
240
gggaagcgct cgaaatcgc ctgctacaaa aacaaggtcg tcggctggcg gagcggcgtg
300
gaaaagacc tcgatgaagt tctgcagacc cactcagtgt ttgtaaatgt ttctaaaggt
360
caggttgcca aaaaggaaga tctcatcagt gcgtttggaa cagatgacca aactgaaatc
420
tgtaagcaga ttttgactaa aggagaagtt caagtatcag ataaagaaag acacacacaa
480
ctggagcaga tgtttaggga cattgcaact attgtggcag acaaatgtgt gaatcctgaa
540
acaaagagac catacaccgt gatccttatt gagagagcca tgaaggacat ccactattcg
600
gtgaaaacca acaagagtac aaaacagcag gctttggaag tgataaagca gttaaaagag
660
aaaatgaaga tagaacgtgc tcacatgagg cttcggttca tccttccagt gaatgaaggc
720
aagaagctga agaaaagct caagccactg atcaaggtca tagaaagtga agattatggc
780
```

```
caacagttag aaatcgtatg tctgattgac ccgggctgct tccgagaaat tgatgagcta
840
ataaaaaagg aaactaaagg caaaggttct ttggaagtac tcaatctgaa agatgtagaa
900
gaaggagatg agaaatttga atgcaccca tcaatctctt cacctctaaa acactaaagt
960
gtttccgttt ccgacggcac tgtttcatgt ctgtggtctg ccaaatactt gcttaaacta
1020
tttgacattt tctatctttg tgttaacagt ggacacagca aggctttcct acataagtat
1080
aataatgtgg gaatgatttg gttttaatta taaactgggg tctaaatcct aaagcaaaat
1140
tgaaactcca agatgcaaag tccagagtgg cattttgcta ctctgtctca tgccttgata
1200
gctttccaaa atgaaagtta cttgaggcag ctcttgtggg tgaaaagtta tttgtacagt
1260
agagtaagat tattaggggt atgtctatac aacaaaggg ggggtctttc ctaaaaaaga
1320
aaacatatga tgcttcattt ctacttaatg gaacttgtgt tctgagggtc attatggtat
1380
cgtaatataa agcttggatg atgttcctga ttatctgaga aacagatata gaaaaattgt
1440
gtcggactta ataatttc gttgaacatg ctgccataac ttagattatt cttggttaaa
1500
aaataaaagt cacttatttc taattcttaa agtttataat atatattaat atagctaaaa
1560
ttgtatgtaa tcaataaaac cactcttatg tttattaaac tatggcttgt gtttctagac
1620
aaaaaaaaaa aaaaa
1635


<210> 5442
<211> 250
<212> PRT
<213> Homo sapiens

<400> 5442
Met Ser Ile Phe Thr Pro Thr Asn Gln Ile Arg Leu Thr Asn Val Ala
1               5                   10                  15
Val Val Arg Met Lys Arg Ala Gly Lys Arg Phe Glu Ile Ala Cys Tyr
            20                  25                  30
Lys Asn Lys Val Val Gly Trp Arg Ser Gly Val Glu Lys Asp Leu Asp
        35                  40                  45
Glu Val Leu Gln Thr His Ser Val Phe Val Asn Val Ser Lys Gly Gln
    50                  55                  60
Val Ala Lys Lys Glu Asp Leu Ile Ser Ala Phe Gly Thr Asp Asp Gln
65                  70                  75                  80
Thr Glu Ile Cys Lys Gln Ile Leu Thr Lys Gly Glu Val Gln Val Ser
                85                  90                  95
Asp Lys Glu Arg His Thr Gln Leu Glu Gln Met Phe Arg Asp Ile Ala
            100                 105                 110
Thr Ile Val Ala Asp Lys Cys Val Asn Pro Glu Thr Lys Arg Pro Tyr
        115                 120                 125
Thr Val Ile Leu Ile Glu Arg Ala Met Lys Asp Ile His Tyr Ser Val
```

```
          130                    135                    140
Lys Thr Asn Lys Ser Thr Lys Gln Gln Ala Leu Glu Val Ile Lys Gln
145                    150                    155                    160
Leu Lys Glu Lys Met Lys Ile Glu Arg Ala His Met Arg Leu Arg Phe
                    165                    170                    175
Ile Leu Pro Val Asn Glu Gly Lys Lys Leu Lys Glu Lys Leu Lys Pro
                180                    185                    190
Leu Ile Lys Val Ile Glu Ser Glu Asp Tyr Gly Gln Gln Leu Glu Ile
            195                    200                    205
Val Cys Leu Ile Asp Pro Gly Cys Phe Arg Glu Ile Asp Glu Leu Ile
        210                    215                    220
Lys Lys Glu Thr Lys Gly Lys Gly Ser Leu Glu Val Leu Asn Leu Lys
225                    230                    235                    240
Asp Val Glu Glu Gly Asp Glu Lys Phe Glu
                    245                    250
```

```
<210> 5443
<211> 2021
<212> DNA
<213> Homo sapiens
```

```
<400> 5443
cagatgcaga cactcactca gcctctgcct cagagaggta ccatgggtcc tggccacatt
60
agggaagtag gcacttgaac cacctgctgt ctctctagct tatgccttga ggcggtggat
120
ggggaggtgg cgtgttccct ctcatctgca ataggatggt ccgaggtagc agtcctgaag
180
ggaacagcag ggatggtagg caggaagaat ggaggtctga ccaggctggc ggctgggaat
240
gaagccaggg cctttgcttc ccttggcacc tctcacaggc cctgccctct gctccacagg
300
ctggaggaag tccccctgga ggtgctgagg cagagggagt ccaagtggct ggacatgctc
360
aacaactggg acaaatggat ggccaagaag cacaaaaaga ttcgtctgcg gtgccaaaag
420
ggcatcccgc cttctctgcg gggccgtgct tggcagtacc tgtcaggagg caaggtgaag
480
ttacagcaga accctggaaa gtttgacgag ctggacatgt cccctgggga ccccaagtgg
540
ctggacgtga ttgagcgtga cctgcaccgg cagttcccat tccatgagat gtttgtgtcc
600
cggggggggcc acggccagca ggacctattc cgtgtgctga ggcctacac gctgtaccgg
660
cccgaggagg gctactgcca ggcccaggcg cccattgccg ctgtcttgct catgcatatg
720
cctgctgagc aagccttctg gtgcctggta cagatctgtg agaagtacct gcccggctac
780
tacagcgaga aactggaggc gatccagctg acggggagat ccttttctc gctgttgcag
840
aaggtgtcgc cggtggccca caagcacctc agccgtcaga agatcgaccc gctcctctat
900
atgacagaat ggttcatgtg cgccttctcc cgaaccttgc cttggagctc tgtgctgcgt
960
```

gtctgggaca tgttcttctg tgaaggggtc aagatcatct tccgggtggg gctggtgctg
1020
ctgaagcacg cgctgggctc ccctgagaag gtcaaagcct gccagggcca gtacgagacc
1080
atcgagcgac tgcggagcct cagccccaag atcatgcagg aggcctttct ggtccaggag
1140
gtggtggagt tgcccgtgac agagcgccag attgagcgcg aacacctcat tcagctgcgg
1200
cgctggcagg agacccgggg tgagctgcag tgccgctccc cgcccaggct gcatggtgcc
1260
aaggctatct tggatgcaga acctggtccc cggcctgccc tacaaccttc accatccatc
1320
cgcctgcccc tagatgcccc cctccctggc tccaaagcca gcccaagcc acccaagcag
1380
gcccagaagg agcagcggaa acagatgaag gggagagggc agctggagaa gcccccagcc
1440
ccaaatcaag ccatggtggt ggccgctgca ggagatgcat gtcccccaca gcatgtgccc
1500
ccgaaggact cagcccccaa ggactcagcc cctcaggatt tggctcccca ggtctcagcc
1560
caccaccgct cccaggagag cttgacgtcc aagagagtg aggacaccta cttgtaaccc
1620
tggcagctaa ggcctccagg gcggggtctc catataacta cacggttcat gaactgacat
1680
tccacatcct gcccaccctc tgagggccaa gctgcctggc cactgggctg ggctggagtc
1740
tggctggtcc aacacagatt ctgcctggtc aacacagat tctgcctgag cctccttatt
1800
tattttcttt acagtggcac tcaggctggc ccagccaggg caggcagaag ctagggcctg
1860
gggggtgggg cctccttcag cccctcctc ctgggggatg ctccccaggg ttagggtgct
1920
ggtgtgaggg gaaagggtgg ggtgttcttt gtgtaaaata gaaacatggt tttgtacaga
1980
aataaacagc cttgtataga gaaaaaaaaa aaaaaaaaa a
2021

<210> 5444
<211> 438
<212> PRT
<213> Homo sapiens

<400> 5444
Leu Glu Glu Val Pro Leu Glu Val Leu Arg Gln Arg Glu Ser Lys Trp
1   5   10   15
Leu Asp Met Leu Asn Asn Trp Asp Lys Trp Met Ala Lys Lys His Lys
            20   25   30
Lys Ile Arg Leu Arg Cys Gln Lys Gly Ile Pro Pro Ser Leu Arg Gly
            35   40   45
Arg Ala Trp Gln Tyr Leu Ser Gly Gly Lys Val Lys Leu Gln Gln Asn
    50   55   60
Pro Gly Lys Phe Asp Glu Leu Asp Met Ser Pro Gly Asp Pro Lys Trp
65   70   75   80
Leu Asp Val Ile Glu Arg Asp Leu His Arg Gln Phe Pro Phe His Glu

```
                      85                        90                        95
Met Phe Val Ser Arg Gly Gly His Gly Gln Gln Asp Leu Phe Arg Val
              100                       105                       110
Leu Lys Ala Tyr Thr Leu Tyr Arg Pro Glu Glu Gly Tyr Cys Gln Ala
              115                       120                       125
Gln Ala Pro Ile Ala Ala Val Leu Leu Met His Met Pro Ala Glu Gln
              130                       135                       140
Ala Phe Trp Cys Leu Val Gln Ile Cys Glu Lys Tyr Leu Pro Gly Tyr
145                       150                       155                       160
Tyr Ser Glu Lys Leu Glu Ala Ile Gln Leu Asp Gly Glu Ile Leu Phe
              165                       170                       175
Ser Leu Leu Gln Lys Val Ser Pro Val Ala His Lys His Leu Ser Arg
              180                       185                       190
Gln Lys Ile Asp Pro Leu Leu Tyr Met Thr Glu Trp Phe Met Cys Ala
              195                       200                       205
Phe Ser Arg Thr Leu Pro Trp Ser Ser Val Leu Arg Val Trp Asp Met
              210                       215                       220
Phe Phe Cys Glu Gly Val Lys Ile Ile Phe Arg Val Gly Leu Val Leu
225                       230                       235                       240
Leu Lys His Ala Leu Gly Ser Pro Glu Lys Val Lys Ala Cys Gln Gly
              245                       250                       255
Gln Tyr Glu Thr Ile Glu Arg Leu Arg Ser Leu Ser Pro Lys Ile Met
              260                       265                       270
Gln Glu Ala Phe Leu Val Gln Glu Val Val Glu Leu Pro Val Thr Glu
              275                       280                       285
Arg Gln Ile Glu Arg Glu His Leu Ile Gln Leu Arg Arg Trp Gln Glu
              290                       295                       300
Thr Arg Gly Glu Leu Gln Cys Arg Ser Pro Pro Arg Leu His Gly Ala
305                       310                       315                       320
Lys Ala Ile Leu Asp Ala Glu Pro Gly Pro Arg Pro Ala Leu Gln Pro
              325                       330                       335
Ser Pro Ser Ile Arg Leu Pro Leu Asp Ala Pro Leu Pro Gly Ser Lys
              340                       345                       350
Ala Lys Pro Lys Pro Pro Lys Gln Ala Gln Lys Glu Gln Arg Lys Gln
              355                       360                       365
Met Lys Gly Arg Gly Gln Leu Glu Lys Pro Pro Ala Pro Asn Gln Ala
              370                       375                       380
Met Val Val Ala Ala Ala Gly Asp Ala Cys Pro Pro Gln His Val Pro
385                       390                       395                       400
Pro Lys Asp Ser Ala Pro Lys Asp Ser Ala Pro Gln Asp Leu Ala Pro
              405                       410                       415
Gln Val Ser Ala His His Arg Ser Gln Glu Ser Leu Thr Ser Gln Glu
              420                       425                       430
Ser Glu Asp Thr Tyr Leu
              435
```

```
<210> 5445
<211> 1187
<212> DNA
<213> Homo sapiens

<400> 5445
gcaaggtcaa gccagctcag gggacatggt gggcaggggg ctccagatcc cacggtgggc
60
```

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agaaaaggcg ggggtcggac tgacgccgtc ctgggccatg tccacgtctg gggtctgcag
120
gttccatctc cctttccact gtgcctaacc ttacatctat tacctacatc cagcaagaca
180
cgattttcca cgatgagttg attcgtaatt ccatttatgt gctagttttt agaattttcc
240
tgtgggtttt tttttactta cttatgattt taattttgtt tgctttaaaa aaaacacatg
300
cataggaaag aatgcttcct ttcatttcaa ttaaaaacaa caaattgctt ttttttaagc
360
aaaaattcat tgaggggggg gctcgcgttg tacaaagaaa atcagaccca ccgggatggc
420
tgtgatcaaa gagacagtaa caagggtagg gaggtggaga tgcgaatcca aacacacaac
480
ttgtgcaaag gtcaagtggc cacagccgcc acggaaaaca ggctggcggt cctccgacg
540
ttcaacacac agtcgccacg ggacacagtg gttccacccc caggtgtgca gcaatagaca
600
tcacagccca cgtccgcacg cagactcgga cacgcgtgct cacagcccac gttcgcacgc
660
agactcagac atgcgtgctc acagcctcag tcatgacagc cagacagtgg aaacaaggca
720
ggtgggcctc ggctgctgag ggagcaacag cagaacggtg ctcagccctg gagaggaagg
780
acgcctggac cctggcccca caccacagca tccacaatgt ggtgccaacc aacaggccac
840
gcacacagag gccatgggcc agacgcttcc actgacacga aatgcccaag agaggcacag
900
ccggcgacag aacggggacc cgtgtctgcc gccccaggag aggctgcagg ccggaaactg
960
gaggattaca gggcgcgagt gtcgtttttag ggagatgaaa atgttctaaa attggctgtg
1020
gcaattgttg cacaactctg caaatatact aaaaaccact gaattgtaca tttcaaaatg
1080
ggtgaattgt acggtgcttg tattataacct caataaagct atttttaaag aaacaaaatt
1140
ttaaatacgt aaaaaaatca gaaagtgaaa tctggaatta acattcc
1187
```

```
<210> 5446
<211> 107
<212> PRT
<213> Homo sapiens

<400> 5446
Met Ala Val Ile Lys Glu Thr Val Thr Arg Val Gly Arg Trp Arg Cys
1               5                   10                  15
Glu Ser Lys His Thr Thr Cys Ala Lys Val Lys Trp Pro Gln Pro Pro
                20                  25                  30
Arg Lys Thr Gly Trp Arg Phe Leu Arg Arg Ser Thr His Ser Arg His
            35                  40                  45
Gly Thr Gln Trp Phe His Pro Gln Val Cys Ser Asn Arg His His Ser
        50                  55                  60
Pro Arg Pro His Ala Asp Ser Asp Thr Arg Ala His Ser Pro Arg Ser
```

4628

```
65                    70                    75                    80
His Ala Asp Ser Asp Met Arg Ala His Ser Leu Ser His Asp Ser Gln
                    85                    90                    95
Thr Val Glu Thr Arg Gln Val Gly Leu Gly Cys
            100                    105


<210> 5447
<211> 1444
<212> DNA
<213> Homo sapiens

<400> 5447
nngcaggtaa gtggtaccat catatgcccg ggacaatttg gcttgcttgt ccaagtttgc
60
aatttgctgc tttgtgaaag tgggcttcaa cacatacgtg atatcctcca atgaggaatc
120
gatgatctca tagttgtact ttgcagtaag aagacttttc agatcaccaa acaaggagat
180
ggcgttgact ttctgtcttg gtttctgaat gctctgcact cagctctggg gggcacaaag
240
aagaaaaaga agactattgt gactgatgtt ttccaggggt ccatgaggat cttcactaaa
300
aagcttcccc atcctgatct gccagcagaa gaaaaagagc agttgctcca taatgacgag
360
taccaggaga caatggtgga gtccactttt atgtacctga cgctggacct tcctactgcc
420
cccctctaca aggacgagaa ggagcagctc atcattcccc aagtgccact cttcaacatc
480
ctggctaagt tcaatggcat cactgagaag gaatataaga cttacaagga gaactttctg
540
aagcgcttcc agcttaccaa gttgcctcca tatctaatct tttgtatcaa gagattcact
600
aagaacaact tctttgttga gaagaatcca actnattgtc aatttcccta ttacaaatgt
660
ggatctgaga gaatacttgt ctgaagaagt acaagcagta cacaagaata ccacctatga
720
cctcattgcc aacatcgtgc atgacggcaa gccctccgag ggctcctacc ggatccacgt
780
gcttcatcat gggacaggca aatggtatga attacaagac ctccaggtga ctgacatcct
840
tcccccagatg atcacactgt cagaggctta cattcagatt tggaagaggc gagataatga
900
tgaaaccaac cagcagggg cttgaaggag gcgtctaggg ctttgctccc aagggctgtg
960
gctgatgatg gtaaataaga acacagaagc tgtagctgaa cacaggctgg ctggtgggct
1020
tcctaggcca gcccagcttg tatgggttct ggctacacca gagcaccaag agcccacttg
1080
cctgggatgg ccccacactg tcactcagct gttctttgat catttttttc tagattgatg
1140
ctcctttctc ccatgcattg agctcccatc tagcttcagc agggcagaac ccttctccag
1200
atgtgtgtaa cttatgtctt gagtatctgg gagtagttga agaacagata attccttcca
1260
```

aacatcaagc cttgggattc ttggagcaag cagaaagcca gtaacttcgc tctgttagag
1320
gtggaggatt ttcctatggt tccccccatt tcctgatttg tatttttaga tggattaaat
1380
agtctcctgt ttttaaacca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1440
aaaa
1444

<210> 5448
<211> 189
<212> PRT
<213> Homo sapiens

<400> 5448
Gly Ile Asp Asp Leu Ile Val Val Leu Cys Ser Lys Lys Thr Phe Gln
 1   5   10   15
Ile Thr Lys Gln Gly Asp Gly Val Asp Phe Leu Ser Trp Phe Leu Asn
            20   25   30
Ala Leu His Ser Ala Leu Gly Gly Thr Lys Lys Lys Lys Thr Ile
         35   40   45
Val Thr Asp Val Phe Gln Gly Ser Met Arg Ile Phe Thr Lys Lys Leu
      50   55   60
Pro His Pro Asp Leu Pro Ala Glu Glu Lys Glu Gln Leu Leu His Asn
65   70   75   80
Asp Glu Tyr Gln Glu Thr Met Val Glu Ser Thr Phe Met Tyr Leu Thr
               85   90   95
Leu Asp Leu Pro Thr Ala Pro Leu Tyr Lys Asp Glu Lys Glu Gln Leu
            100   105   110
Ile Ile Pro Gln Val Pro Leu Phe Asn Ile Leu Ala Lys Phe Asn Gly
         115   120   125
Ile Thr Glu Lys Glu Tyr Lys Thr Tyr Lys Glu Asn Phe Leu Lys Arg
      130   135   140
Phe Gln Leu Thr Lys Leu Pro Pro Tyr Leu Ile Phe Cys Ile Lys Arg
145   150   155   160
Phe Thr Lys Asn Asn Phe Phe Val Glu Lys Asn Pro Thr Xaa Cys Gln
               165   170   175
Phe Pro Tyr Tyr Lys Cys Gly Ser Glu Arg Ile Leu Val
            180   185

<210> 5449
<211> 1359
<212> DNA
<213> Homo sapiens

<400> 5449
tctccagagg aggaccagag gacttatgtt ttccgggccc agagcgctga aatgaaggaa
60
cgagggggca accagaccag tggcatcgac ttctttatta cccaagaacg gattgttttc
120
ctggacacac agcccatcct gagcccttct atcctagacc atctcatcaa taatgaccgc
180
aaactgcctc cagagtacaa ccttccccac acttacgttg aaatgcagtc actccagatt
240

4630

gctgccttcc ttttcacggt ctgccatgtg gggattnntg tccaggactg gttcacagac
300
ctcagtctct acaggttcct gcagacagca gagatggtga agccctccac cccatccccc
360
agccacgagt ccagcagctc atcgggctcc gatgaaggca ccgagtacta cccccaccta
420
gtcttcttcc agaacaaagc tcgccgagag gacttctgtc ctcggaagct gcggcagatg
480
cacctgatga ttgaccagct catggcccac tcccacctgc gttacaaggg aactctgtcc
540
atgttacaat gcaatgtctt cccggggctt ccacctgact tcctggactc tgaggtcaac
600
ttattcctgg tacccttcat ggacagtgaa gcagagagtg aaaacccacc aagagcagga
660
cctggttcca gcccactctt ctccctgctg cctgggtatc gtggccaccc cagtttccag
720
tccttggtga gcaagctccg gagccaagtg atgtccatgg cccggccaca gctgtcacac
780
acgatcctca ccgagaagaa ctggttccac tacgctgccc ggatctggga tggggtgaga
840
aagtcctctg ctctggcaga gtacagccgc ctgctggcct gaggccaagg agaggaatgt
900
catgcagggg acctcctggg tccgcagtgt actgcgaggg agcacagatg tccatccccc
960
gctggggtgg agagcggcag caggcctgat ggatgaggga tcgtggcttc ccggcccaga
1020
gacatgaggt gtccagggcc aggcccccca ccctcagttg gggctgttcc gggggtgact
1080
gtgagcgatc ccaccccaaa cctgagatgg ggcagcccgt cctgtgtcct ccacagggac
1140
aagcagtggg aggagtctga atggtcacca ggaagcccgg gctccatctt gacctccttt
1200
ttcagggaca ggagcaacag gcccctcttc cctgactcta agcccttccc tgtaaggtga
1260
ggcagggtct ggagagctct ttattggaac agatctggtg gttcaaataa acacagtcat
1320
gcaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa
1359

<210> 5450
<211> 293
<212> PRT
<213> Homo sapiens

<400> 5450
Ser Pro Glu Glu Asp Gln Arg Thr Tyr Val Phe Arg Ala Gln Ser Ala
1   5   10   15
Glu Met Lys Glu Arg Gly Gly Asn Gln Thr Ser Gly Ile Asp Phe Phe
            20   25   30
Ile Thr Gln Glu Arg Ile Val Phe Leu Asp Thr Gln Pro Ile Leu Ser
        35   40   45
Pro Ser Ile Leu Asp His Leu Ile Asn Asn Asp Arg Lys Leu Pro Pro
    50   55   60
Glu Tyr Asn Leu Pro His Thr Tyr Val Glu Met Gln Ser Leu Gln Ile

4631

```
65                    70                    75                    80
Ala Ala Phe Leu Phe Thr Val Cys His Val Gly Ile Xaa Val Gln Asp
                 85                    90                    95
Trp Phe Thr Asp Leu Ser Leu Tyr Arg Phe Leu Gln Thr Ala Glu Met
             100                   105                   110
Val Lys Pro Ser Thr Pro Ser Pro Ser His Glu Ser Ser Ser Ser Ser
         115                   120                   125
Gly Ser Asp Glu Gly Thr Glu Tyr Tyr Pro His Leu Val Phe Phe Gln
     130                   135                   140
Asn Lys Ala Arg Arg Glu Asp Phe Cys Pro Arg Lys Leu Arg Gln Met
145                   150                   155                   160
His Leu Met Ile Asp Gln Leu Met Ala His Ser His Leu Arg Tyr Lys
                 165                   170                   175
Gly Thr Leu Ser Met Leu Gln Cys Asn Val Phe Pro Gly Leu Pro Pro
             180                   185                   190
Asp Phe Leu Asp Ser Glu Val Asn Leu Phe Leu Val Pro Phe Met Asp
         195                   200                   205
Ser Glu Ala Glu Ser Glu Asn Pro Pro Arg Ala Gly Pro Gly Ser Ser
     210                   215                   220
Pro Leu Phe Ser Leu Leu Pro Gly Tyr Arg Gly His Pro Ser Phe Gln
225                   230                   235                   240
Ser Leu Val Ser Lys Leu Arg Ser Gln Val Met Ser Met Ala Arg Pro
                 245                   250                   255
Gln Leu Ser His Thr Ile Leu Thr Glu Lys Asn Trp Phe His Tyr Ala
             260                   265                   270
Ala Arg Ile Trp Asp Gly Val Arg Lys Ser Ser Ala Leu Ala Glu Tyr
         275                   280                   285
Ser Arg Leu Leu Ala
     290
```

```
<210> 5451
<211> 1184
<212> DNA
<213> Homo sapiens
```

```
<400> 5451
ncacgcctgg ctaaattttg tatttttggt agagacgggg tttcacgtgt tggccaggct
60
ggtctcgaac tgctgacctc aagtgatctg tccgcctcag cctcccaaag tgctgggatt
120
acagatgtga gccatcatgc ccggctaatt tttttgtatt ttagtagaga cagggtttca
180
ccgtgttagc caggatggtc ttgatctcct gaccttgtga tccaccagcc tcagcctccc
240
aaagtgctgg gattacaggc gtgagccact gtgcccggcc aagaattttt ttatcgataa
300
catagtgagc tctctgcctc ttcggaacga tgtccacttt gcttatgatc aacccaagca
360
ggactcttct ctccctggac gcctctcccc tggtctggaa tcttccagtt ctgccagaat
420
tggcctttcc cagatgctgc aaacttccag ttgaacccct ttttctgtgt ggcccctggg
480
gctgcgagac caaaatccat gagttctgtg taccctagac ctttggaagg tgagagcagg
540
```

.

```
gccctgagaa aaggcagcca cctcctctcc ctggctgaac ccctgccacc ctactcctca
600
ccagaattgt cagtggcctt tcaccacagt ggtccttcct gcctgagccc tgcactgtcc
660
cagaccacac agaagtctgg tcacctctgg gcgcctggga tggtcaccga agagaagcac
720
gctgtccccg tctctcctgg cttctgccag aaaatcgaac aagtgcaatt aacacactgt
780
tactgccgaa gcctgaaact cccaggactt gtccttgatc cttccagaaa ccaccaggtc
840
cggcacttgg agcccccccgg agagggacct cccagccgag ccctcaaaga actccatgaa
900
atcaggaact gcttgatgaa atgtatctcc ttgtacctgg aagatgaagc ccaaacaccc
960
acacctctgt ctcccccagg gctcgggatg tctccagcag cccggccacg cagcttccca
1020
ggtgggctcg gggaggtggg agcagggacc atctctgtcc cctccaccct cactccatcc
1080
acctcggaga ccaccctccc ccagccagat acggaataaa actacagacg cagacgtcgg
1140
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa
1184


<210> 5452
<211> 206
<212> PRT
<213> Homo sapiens

<400> 5452
Met Ser Ser Val Tyr Pro Arg Pro Leu Glu Gly Glu Ser Arg Ala Leu
1               5                   10                  15
Arg Lys Gly Ser His Leu Leu Ser Leu Ala Glu Pro Leu Pro Pro Tyr
            20                  25                  30
Ser Ser Pro Glu Leu Ser Val Ala Phe His His Ser Gly Pro Ser Cys
        35                  40                  45
Leu Ser Pro Ala Leu Ser Gln Thr Thr Gln Lys Ser Gly His Leu Trp
    50                  55                  60
Ala Pro Gly Met Val Thr Glu Glu Lys His Ala Val Pro Val Ser Pro
65                  70                  75                  80
Gly Phe Cys Gln Lys Ile Glu Gln Val Gln Leu Thr His Cys Tyr Cys
                85                  90                  95
Arg Ser Leu Lys Leu Pro Gly Leu Val Leu Asp Pro Ser Arg Asn His
            100                 105                 110
Gln Val Arg His Leu Glu Pro Pro Gly Glu Gly Pro Pro Ser Arg Ala
            115                 120                 125
Leu Lys Glu Leu His Glu Ile Arg Asn Cys Leu Met Lys Cys Ile Ser
            130                 135                 140
Leu Tyr Leu Glu Asp Glu Ala Gln Thr Pro Thr Pro Leu Ser Pro Pro
145                 150                 155                 160
Gly Leu Gly Met Ser Pro Ala Ala Arg Pro Arg Ser Phe Pro Gly Gly
                165                 170                 175
Leu Gly Glu Val Gly Ala Gly Thr Ile Ser Val Pro Ser Thr Leu Thr
            180                 185                 190
Pro Ser Thr Ser Glu Thr Thr Leu Pro Gln Pro Asp Thr Glu
```

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        195                    200                    205


<210> 5453
<211> 1974
<212> DNA
<213> Homo sapiens


<400> 5453
ntcggcaggc cggccatgga gccaggcagc gtggagaacc tgtccatcgt gtaccggagc
60
cgcgacttcc tggtggtcaa caagcactgg gacgttcgca ttgacagcaa ggcgtggcgg
120
gagactctga ccctgcagaa gcagctgcgg taccgctttc ccgagctggc cgaccctgac
180
acctgctacg ggttcaggtt ctgccaccag ctggatttct ccaccagcgg ggcgctgtgc
240
gtggccctaa acaaggcagc cgccggcagc gcgtacaggt gcttcaagga gcggcgcgtg
300
accaaggctt acctggcatt gctgcggggg cacatccagg agagccgggt aaccatcagc
360
catgccattg gcaggaacag cacggagggc cgggcccaca ccatgtgcat cgagggctcg
420
cagggtgtgg caggttgtga gaacccaaag ccaagcctca cagatctcgt ggttctggaa
480
cacggcctgt acgcaggcga tcctgtctcc aaagtgctgc tgaagccgct cacgggccgg
540
acacaccagc tgcgcgtgca ctgcagtgcc ctgggccacc ccgtggtggg cgacctgacc
600
tacgagaag tctcgggccg ggaggaccgg ccgttcagaa tgatgctgca cgctttctac
660
ctgcgcatcc ccacggacac cgagtgtgtg gaggtctgca cgcctgaccc cttcctgccc
720
tccctggatg cctgctggag cccccacaca ctgctgcagt cgctggacca gctcgtgcag
780
gccttacggg ccacccccga ccctgacccc gaggataggg gccccaggcc aggcagcccc
840
tccgcactcc tgcctgggcc cggccggcct cctccacccc caaccaagcc ccctgagact
900
gaggcacagc ggggcccctg cctgcagtgg ctgtcggagt ggacgctgga accggacagc
960
tgagagccgt ggggctgggg cagggggtgt cagctgcaca gcgggactct agggagatgg
1020
gcgagcgagc gtctgctcac tggctctggg gcctcgaggt gccaggcagc atcaggccca
1080
ctgggttgcc ccggccaggc ctgcgaggaa gggctgaggt ggggccggca ggggggcgcca
1140
ggcagccgtg atcacaggtg acgaccgcac cgcggccgtg ggactgatgc gggatcccga
1200
gggccttcct gcccacatgc cccgggagaa accgaggccc ctccctcctc ctggaacagc
1260
ttccggctct caagcgtcac cccaggggcg tcagttttac ggactcaagg tcacctcagg
1320
aagaggcagg gccaggtttt gggataggct ttgcctccag gatgggctgc tcctgggcct
1380
```

```
ggtgagctac tgcccccaac ctaccctcta gaggggctgg gaagggccgt tctgggctca
1440
cctggcctgg gagacccatc tggtccctgc gtcctctgcc cctcactgct ctgtgcagat
1500
cctgtcgccc tcagctgcct cctcccgaga cctaatggtc cctgctgggc tcgagtctgc
1560
aggcccggct gcgtgtgcct tggcctcact gtaccagtgg ttccctctct gcccggattc
1620
tgagctcagt gtggtgtttg gtgcacaggg gttggtcagg ggccatggcc aaggccctgc
1680
cacgcacgcc catccctcag atccactgtg agcaccaacc tgctgcagtc tcttgggccc
1740
ctgctggcag ctctgccacg tcaccgcctg cctggctccc acacagccat gcattgtcac
1800
tctgcctccg ggaccccagc ttgggagctg tgggtctgcc aggtcccacc tcctctgtcc
1860
cccatgccac aacctgggct cctggctaca gcagggctcc agggactcca aataaatgtt
1920
cagtgactgg caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa
1974


<210> 5454
<211> 320
<212> PRT
<213> Homo sapiens

<400> 5454
Xaa Gly Arg Pro Ala Met Glu Pro Gly Ser Val Glu Asn Leu Ser Ile
 1               5                  10                  15
Val Tyr Arg Ser Arg Asp Phe Leu Val Val Asn Lys His Trp Asp Val
            20                  25                  30
Arg Ile Asp Ser Lys Ala Trp Arg Glu Thr Leu Thr Leu Gln Lys Gln
        35                  40                  45
Leu Arg Tyr Arg Phe Pro Glu Leu Ala Asp Pro Asp Thr Cys Tyr Gly
    50                  55                  60
Phe Arg Phe Cys His Gln Leu Asp Phe Ser Thr Ser Gly Ala Leu Cys
65                  70                  75                  80
Val Ala Leu Asn Lys Ala Ala Ala Gly Ser Ala Tyr Arg Cys Phe Lys
                85                  90                  95
Glu Arg Arg Val Thr Lys Ala Tyr Leu Ala Leu Leu Arg Gly His Ile
            100                 105                 110
Gln Glu Ser Arg Val Thr Ile Ser His Ala Ile Gly Arg Asn Ser Thr
            115                 120                 125
Glu Gly Arg Ala His Thr Met Cys Ile Glu Gly Ser Gln Gly Val Ala
        130                 135                 140
Gly Cys Glu Asn Pro Lys Pro Ser Leu Thr Asp Leu Val Val Leu Glu
145                 150                 155                 160
His Gly Leu Tyr Ala Gly Asp Pro Val Ser Lys Val Leu Leu Lys Pro
                165                 170                 175
Leu Thr Gly Arg Thr His Gln Leu Arg Val His Cys Ser Ala Leu Gly
            180                 185                 190
His Pro Val Val Gly Asp Leu Thr Tyr Gly Glu Val Ser Gly Arg Glu
        195                 200                 205
Asp Arg Pro Phe Arg Met Met Leu His Ala Phe Tyr Leu Arg Ile Pro
```

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      210                    215                    220
Thr Asp Thr Glu Cys Val Glu Val Cys Thr Pro Asp Pro Phe Leu Pro
225                    230                    235                    240
Ser Leu Asp Ala Cys Trp Ser Pro His Thr Leu Leu Gln Ser Leu Asp
              245                    250                    255
Gln Leu Val Gln Ala Leu Arg Ala Thr Pro Asp Pro Asp Pro Glu Asp
              260                    265                    270
Arg Gly Pro Arg Pro Gly Ser Pro Ser Ala Leu Leu Pro Gly Pro Gly
          275                    280                    285
Arg Pro Pro Pro Pro Pro Thr Lys Pro Pro Glu Thr Glu Ala Gln Arg
      290                    295                    300
Gly Pro Cys Leu Gln Trp Leu Ser Glu Trp Thr Leu Glu Pro Asp Ser
305                    310                    315                    320
```

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<210> 5455
<211> 975
<212> DNA
<213> Homo sapiens

<400> 5455
nggtgaggct caaactctct ctttctcctt gtcataacta ttggtttaca gtctttattt
60
gtttaaaagt aaagcacatt gtatgtattt atttggcaat acatgaggcc attaaaaccc
120
tgagcctaag gtaccacagt tagtctcatt tgcctcttgt cctgtgaact ccacttagaa
180
tgtcattgaa cttgggcaga cataattcta gtgtctgttc caaacgcact gtgtcacaga
240
agctagaatt accattagag gcacaaaccc ctgagaatac acaagggggc acgcttccag
300
tagatgtgtt ggggaaggag gagggcagag gggacagggg acaggattca gctttgtggt
360
gggtcctgag ggttcctacc aggggtagcc aggatctggg aaacagatca gcgactctag
420
tctgaagtgg ctgcctggtt cgggggctgc cttcagcaag attcaggcag gagagacgga
480
aatagccacc ttccaggcgt gagtcctgga gataaaaatg gattttaacc taggactgcc
540
gggagctggc cctccgcggc tgctcagact agggctgtgt gtgctggctc tcgcctgttt
600
ccggtgtcta actggcttgt ttctctttat ggcttggctt cattccgacc tggggtgggg
660
ccacatccaa cccactgccc actggctgtc cgtctggcct gccccgcggt tccaaccaca
720
gtggtgaagc agcgcttgca gatgtacaac tcgcagcacc ggtcagcaat cagctgcatc
780
cggacggtgt ggaggaccga ggggttgggg gccttctacc ggagctacac cacgcagctg
840
accatgaaca tccccttcca gtccatccac ttcatcacct atgagttcct gcaggagcag
900
gtcaacccccc accggaccta caacccgcag tcccacatca tctcaggcgg gctggccggg
960
gccctcgccg cggcg
975
```

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<210> 5456
<211> 149
<212> PRT
<213> Homo sapiens

<400> 5456
Pro Arg Thr Ala Gly Ser Trp Pro Ser Ala Ala Ala Gln Thr Arg Ala
1               5                   10                  15
Val Cys Ala Gly Ser Arg Leu Phe Pro Val Ser Asn Trp Leu Val Ser
            20                  25                  30
Leu Tyr Gly Leu Ala Ser Phe Arg Pro Gly Val Gly Pro His Pro Thr
        35                  40                  45
His Cys Pro Leu Ala Val Arg Leu Ala Cys Pro Ala Val Pro Thr Thr
    50                  55                  60
Val Val Lys Gln Arg Leu Gln Met Tyr Asn Ser Gln His Arg Ser Ala
65                  70                  75                  80
Ile Ser Cys Ile Arg Thr Val Trp Arg Thr Glu Gly Leu Gly Ala Phe
                85                  90                  95
Tyr Arg Ser Tyr Thr Thr Gln Leu Thr Met Asn Ile Pro Phe Gln Ser
            100                 105                 110
Ile His Phe Ile Thr Tyr Glu Phe Leu Gln Glu Gln Val Asn Pro His
        115                 120                 125
Arg Thr Tyr Asn Pro Gln Ser His Ile Ile Ser Gly Gly Leu Ala Gly
    130                 135                 140
Ala Leu Ala Ala Ala
145

<210> 5457
<211> 448
<212> DNA
<213> Homo sapiens

<400> 5457
cgcagcggga gcgtgggcag ccaggcggtg gcgcggagga tggatgggga cagccgagat
60
ggcggcggcg gcaaggacgc caccgggtcg gaggactacg agaacctgcc gactagcgcc
120
tccgtgtcca cccacatgac agcaggagcg atggccggga tcctggagca ctcggtcatg
180
tacccggtgg actcggtgaa ggtaatgtgg actgtggagc tctgtgctgg tcactttcaa
240
ccctgaacct gatgctactt attttgcagt tctaagtgca aagtcggcct ggtggatgct
300
tcccattata atattaaatt tgcttcttcg tgaggtcaca cctcacatcc ccagtgtcac
360
tttaataact agtgtttttt acatggtggg ccatgaccca ttagtggact ctgcatttaa
420
aaataaataa ataaataaaa gaaaaaaa
448

<210> 5458
<211> 81
<212> PRT
```

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<213> Homo sapiens

<400> 5458
Arg Ser Gly Ser Val Gly Ser Gln Ala Val Ala Arg Arg Met Asp Gly
 1               5                   10                  15
Asp Ser Arg Asp Gly Gly Gly Gly Lys Asp Ala Thr Gly Ser Glu Asp
            20                  25                  30
Tyr Glu Asn Leu Pro Thr Ser Ala Ser Val Ser Thr His Met Thr Ala
        35                  40                  45
Gly Ala, Met Ala Gly Ile Leu Glu His Ser Val Met Tyr Pro Val Asp
    50                  55                  60
Ser Val Lys Val Met Trp Thr Val Glu Leu Cys Ala Gly His Phe Gln
65                  70                  75                  80
Pro


<210> 5459
<211> 1468
<212> DNA
<213> Homo sapiens

<400> 5459
nncgccatgg cgtcaggcgc cgcggccccg gggaggtggc tcccacttta agaagtgaag
60
ttttgcgccc ctccccctcc ctgcccacct cctgcagcct cctgcgcccc gccgagctgg
120
cggatggagc tgcgcagcgg gagcgtgggc agccaggcgg tggcgcggag gatggatggg
180
gacagccgag atggcggcgg cggcaaggac gccaccgggt cggaggacta cgagaacctg
240
ccgactagcg cctccgtgtc cacccacatg acagcaggag cgatggccgg gatcctggag
300
cactcggtca tgtacccggt ggactcggtg aagacacgaa tgcagagttt gagtccagat
360
cccaaagccc agtacacaag tatctacgga gccctcaaga aaatcatgca gaccgaaggc
420
ttctggaggc ccttgcgagg cgtcaacgtc atgatcatgg gtgcagggcc agcccatgcc
480
atgtattttg cctgctatga aaacatgaaa aggactttaa atgacgtttt ccaccaccaa
540
ggaaacagcc acctagccaa cggtattttg aaagcgtttg tctggagtta gaaagttctc
600
ttcttcaaca cgtccctccc cagggtgttc ctccctgtga cccagccgcc tcgacttcgg
660
cccgcttgct cacgaataaa gaactcagag ttgtgtgtgc aatgcacacc cagacacacg
720
cacgcacaca cacgcgcgcg cacacacatg ctttttttctg ttcccctccg ctttctgaag
780
cctggggaga aatcagtgac agaggtgttt tggttttatt gttatgtggg ttttcttttg
840
tatttttttt gtttgtttttg tttttaaaca ttcaaaagca attaatgatc agacatagga
900
gaaaccctga atagaaacaa aacttttgaa tgctggattc aaaaaaaaaa aaaagttatc
960
```

```
tggacagctt ctttgagact atttaaaaac tggtacaaca ggtctctaca acgccaagat
1020
ctaactaagc tttaaaaggt caagaagttt tatggctgac aaaggactcg cgcaacgcag
1080
aaggcctttc ccaccttaag cttccgggga tctgggaatt ttacccccat tctcttctgt
1140
ttgtctgagt ctcatctctc tgcaagcaag ggctgaaatc attttgtttg ggatagctgg
1200
gagtatggcc accctgctcc acgatgcggt aatgaatcca gcagaaggta atgtttcatg
1260
gtcccaggga ggggcagtag gggatgtgca aaggggcaca aaaaaatggt tgtgggagag
1320
tggagaggac tgaaggtggg cagacggctc ctagtctcca gtcagagcag acaggagaat
1380
tgaatttttt actacgttat caaaggcctc aagaaaggac gtgaacataa gagtttttgg
1440
tattcctgtg ctcggagcta cttcaaag
1468


<210> 5460
<211> 155
<212> PRT
<213> Homo sapiens


<400> 5460
Met Glu Leu Arg Ser Gly Ser Val Gly Ser Gln Ala Val Ala Arg Arg
 1               5                  10                  15
Met Asp Gly Asp Ser Arg Asp Gly Gly Gly Gly Lys Asp Ala Thr Gly
            20                  25                  30
Ser Glu Asp Tyr Glu Asn Leu Pro Thr Ser Ala Ser Val Ser Thr His
            35                  40                  45
Met Thr Ala Gly Ala Met Ala Gly Ile Leu Glu His Ser Val Met Tyr
        50                  55                  60
Pro Val Asp Ser Val Lys Thr Arg Met Gln Ser Leu Ser Pro Asp Pro
65                  70                  75                  80
Lys Ala Gln Tyr Thr Ser Ile Tyr Gly Ala Leu Lys Lys Ile Met Gln
                85                  90                  95
Thr Glu Gly Phe Trp Arg Pro Leu Arg Gly Val Asn Val Met Ile Met
            100                 105                 110
Gly Ala Gly Pro Ala His Ala Met Tyr Phe Ala Cys Tyr Glu Asn Met
        115                 120                 125
Lys Arg Thr Leu Asn Asp Val Phe His His Gln Gly Asn Ser His Leu
    130                 135                 140
Ala Asn Gly Ile Leu Lys Ala Phe Val Trp Ser
145                 150                 155


<210> 5461
<211> 1725
<212> DNA
<213> Homo sapiens


<400> 5461
nnagtccgcg ccgcaggtgg tgcttgtctg cagagtcatg acctctttcc gcttggccct
60
```

```
catccagctt cagatttctt ccatcaaatc agataacgtc actcgcgctt gtagcttcat
120
ccgggaggca gcaacgcaag gagccaaaat agtttctttg ccggaatgct ttaattctcc
180
atatggagcg aaatattttc ctgaatatgc agagaaaatt cctggtgaat ccacacagaa
240
gctttctgaa gtagcaaagg aatgcagcat atatctcatt ggaggtaact tcctacccac
300
aaggctctat ccctgaagag gatgctggga aattatataa cacctgtgct gtgtttgggc
360
ctgatggaac tttactagca aagtatagaa agatccatct gtttgacatt gatgttcctg
420
gaaaaattac atttcaagaa tctaaaacat tgagtccggg tgatagtttc tccacatttg
480
atactcgtat gtaccagata agtttgcctc tttagcaatc tcagtagaag acaatcaggt
540
atttatttct tttttgtctc tctccgattt cttcacataa cctaactgaa agaccataag
600
tgagaaaggc agagaatcat cacagatctg gaaagttcgg gcttatttga gaactaagga
660
tttgacacga ttttgccctt tgatttgatt gtagcttcct gttacggctt ccagagtata
720
cctattaggc tacagttgag tacctcccat ctagataata agcattcaat tagaatgaat
780
ttctcatctt tactccgctg atgtaaatga tgtctttatg agatgaagtc caagtaggaa
840
tgagcttgta aattatctct gtcctcaggt cctgtgttaa tttatccctg tcagtgtttt
900
gtgatcatta tgtcatggag gatttcccct gccacaccat gctgtaggga gttaactttt
960
catttgtgca ttttctgttt ggaaacagct tactgcagag tgggtctggg catctgctac
1020
gacatgcggt ttgcagagct tgcacaaatc tacgcacaga gaggctgcca gctgttggta
1080
tatccaggag cttttaatct gaccactgga ccagcccatt gggagttact tcagcgaagc
1140
cgggctgttg ataatcaggt gtatgtggcc acagcctctc ctgcccggga tgacaaagcc
1200
tcctatgttg cctggggaca cagcaccgtg gtgaaccctt gggggaggt tctagccaaa
1260
gctggcacag aagaagcaat cgtgtattca gacatagacc tgaagaagct ggctgaaata
1320
cgccagcaaa tccccgtttt tagacagaag cgatcagacc tctatgctgt ggagatgaaa
1380
aagccctaaa gtttatgttt ctaatgtgtc acagaatagg acgatatgat tctacaacat
1440
aatcaactcc ctattaaatt ctttaatgaa gatttttttt ttaattcggc cttgtccttc
1500
ctaggttctc tattgagatg agaaagcctc attatgctga cattttccac gccacattaa
1560
atagttaaaa aggatgcagc ctggagccag agagcagaaa gctgggctgg ttctgaagct
1620
tcttccatac ttaagttgcc tccaagcagt ttgtgaaagt atcagatcct ggtatcctgg
1680
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tgattgattc acctaatata aatatatttg tgccatgaac ctctt
1725

<210> 5462
<211> 159
<212> PRT
<213> Homo sapiens

<400> 5462
Met Ser Trp Arg Ile Ser Pro Ala Thr Pro Cys Cys Arg Glu Leu Thr
1   5   10   15
Phe His Leu Cys Ile Phe Cys Leu Glu Thr Ala Tyr Cys Arg Val Gly
            20   25   30
Leu Gly Ile Cys Tyr Asp Met Arg Phe Ala Glu Leu Ala Gln Ile Tyr
        35   40   45
Ala Gln Arg Gly Cys Gln Leu Leu Val Tyr Pro Gly Ala Phe Asn Leu
    50   55   60
Thr Thr Gly Pro Ala His Trp Glu Leu Leu Gln Arg Ser Arg Ala Val
65   70   75   80
Asp Asn Gln Val Tyr Val Ala Thr Ala Ser Pro Ala Arg Asp Asp Lys
                85   90   95
Ala Ser Tyr Val Ala Trp Gly His Ser Thr Val Val Asn Pro Trp Gly
            100   105   110
Glu Val Leu Ala Lys Ala Gly Thr Glu Glu Ala Ile Val Tyr Ser Asp
            115   120   125
Ile Asp Leu Lys Lys Leu Ala Glu Ile Arg Gln Gln Ile Pro Val Phe
        130   135   140
Arg Gln Lys Arg Ser Asp Leu Tyr Ala Val Glu Met Lys Lys Pro
145   150   155

<210> 5463
<211> 792
<212> DNA
<213> Homo sapiens

<400> 5463
nntttttttt tttttttaaag cctggattgt aaccagattt tctttttttcc cccttctcag
60
ctgtagatat gatatctcct ttcagggccc cagcttaagg gcaaagtgag ttaatgtgta
120
gacaaaggcg agggacaaga gagagttaac atctagacag tggaaaaagc catggtgtgt
180
ggtttctggg aaccaccaac acttgcaggt ttagcttttt cccagggttg actacaagaa
240
agaaaaccat gtttttgcaa gattaaaatg tggttgagtg tgcctaaatt aaccatcccc
300
attttttatca tatttccacc atcacttcag ggttttaaga gtcagtgctc acctgggcgg
360
agctggtagt acattttgct tcttagaaag ctaagtcctg ggttccgtct gattttaggt
420
tccaggaact tcctgagaac acccgatcgc agagggtaat tttctggagt ttgtttttgca
480
gggatagctg ggagtatggc caccctgctc cacgatgcgg taatgaatcc agcagaagtg
540

gtgaagcagc gcttgcagat gtacaactcg cagcaccggt cagcaatcag ctgcatccgg
600
acggtgtgga ggaccgaggg gttggggggcc ttctaccgga gctacaccac gcagctgacc
660
atgaacatcc ccttccagtc catccacttc atcacctatg agttcctgca ggagcaggtc
720
aacccccacc ggacctacaa cccgcagtcc cacatcatct caggcgggct ggccgggggcc
780
ctcgccgcgg cc
792

<210> 5464
<211> 111
<212> PRT
<213> Homo sapiens

<400> 5464
Phe Ser Gly Val Cys Phe Ala Gly Ile Ala Gly Ser Met Ala Thr Leu
1   5   10   15
Leu His Asp Ala Val Met Asn Pro Ala Glu Val Val Lys Gln Arg Leu
            20   25   30
Gln Met Tyr Asn Ser Gln His Arg Ser Ala Ile Ser Cys Ile Arg Thr
        35   40   45
Val Trp Arg Thr Glu Gly Leu Gly Ala Phe Tyr Arg Ser Tyr Thr Thr
    50   55   60
Gln Leu Thr Met Asn Ile Pro Phe Gln Ser Ile His Phe Ile Thr Tyr
65   70   75   80
Glu Phe Leu Gln Glu Gln Val Asn Pro His Arg Thr Tyr Asn Pro Gln
                85   90   95
Ser His Ile Ile Ser Gly Gly Leu Ala Gly Ala Leu Ala Ala Ala
            100   105   110

<210> 5465
<211> 497
<212> DNA
<213> Homo sapiens

<400> 5465
tttgacggtc ttcaggttta tttcttaaat caattaggaa ataaaaccac agtgcccagg
60
aaagttcaca tgagacgcca cggtgtctct tgccatggcc ccaccactcc aggggccagg
120
gggtgctgct ggagggagga cagacggaca ggcggcctgg gtggccggcc ccagaaaggc
180
tggcgtggat gttcgagatg agccaccagc gaagccagta gggatgtctg ggccgtcctg
240
gtgggattgt ctggacatc gccaccaaca cggtgtcaga gccatcagtg gggacatcgg
300
aggggccacc accaggtggg gtatattcaa caggctagaa ccctgaggc ttgagaggcc
360
aaccccggc aggagacctc ccctgacccc tctgctgcct ctcctgtggg accctccagt
420
agacacacca gatgaggaca cccaggaggc ctcctcccag gacaggaggc agctgcctgg
480

4642

```
gcagccacgc agtgcac
497


<210> 5466
<211> 134
<212> PRT
<213> Homo sapiens


<400> 5466
Met Ala Pro Pro Leu Gln Gly Pro Gly Gly Ala Ala Gly Gly Arg Thr
1               5                   10                  15
Asp Gly Gln Ala Ala Trp Val Ala Gly Pro Arg Lys Ala Gly Val Asp
                20                  25                  30
Val Arg Asp Glu Pro Pro Ala Lys Pro Val Gly Met Ser Gly Pro Ser
        35                  40                  45
Trp Trp Asp Cys Leu Gly His Arg His Gln His Gly Val Arg Ala Ile
    50                  55                  60
Ser Gly Asp Ile Gly Gly Ala Thr Thr Arg Trp Gly Ile Phe Asn Arg
65                  70                  75                  80
Leu Glu Pro Leu Arg Leu Glu Arg Pro Thr Pro Gly Arg Arg Pro Pro
                85                  90                  95
Leu Thr Pro Leu Leu Pro Leu Leu Trp Asp Pro Pro Val Asp Thr Pro
            100                 105                 110
Asp Glu Asp Thr Gln Glu Ala Ser Ser Gln Asp Arg Arg Gln Leu Pro
        115                 120                 125
Gly Gln Pro Arg Ser Ala
    130


<210> 5467
<211> 1329
<212> DNA
<213> Homo sapiens


<400> 5467
gtcgaatatc catgcagccg cgccgccgcc ctggagtgag ggaagcccag tggaaggggg
60
tcccgggagc cggctgcgat ggacgccgtc ttggaaccct tcccggccga caggctgttc
120
cccggatcca gcttcctgga cttggggggat ctgaacgagt cggacttcct caacaatgcg
180
cactttcctg agcacctgga ccactttacg gagaacatgg aggacttctc caatgacctg
240
ttcagcagct tctttgatga ccctgtgctg gatgagaaga gccctctatt ggacatggaa
300
ctggactccc ctacgccagg catccaggcg gagcacagct actccctgag cggcgactca
360
gcgccccaga gccccccttgt gcccatcaag atggaggaca ccacccaaga tgcagagcat
420
ggagcatggg cgctgggaca caaactgtgc tccatcatgg tgaagcagga gcagagcccg
480
gagctgcccg tggaccctct ggctgccccc tcggccatgg ctgccgcggc cgccatggcc
540
accaccccgc tgctgggcct cagcccttg tccaggctgc ccatcccca ccaggccccg
600
```

```
ggagagatga ctcagctgcc agtgatcaaa gcagagcctc tggaggtgaa ccagttcctc
660
aaagtgacac cggaggacct ggtgcagatg cctccgacgc ccccagcag ccatggcagt
720
gacagcgacg gctcccagag tccccgctct ctgccccct ccagccctgt caggcccatg
780
gcgcgctcct ccacggccat ctccagctcc ccactcctca cggctcctca taaattacag
840
gggacatcag gccctctggt cctgacagag gaggagaaga ggaccctgat tgctgagggc
900
tatcccatcc ccaccaaact ccccctcacc aaatcagagg agaaggcctt gaagaaaatt
960
cggaggaaga tcaagaataa gatttctgct caggaaagta ggagaaagaa gaaagaatac
1020
atggacagcc tggagaaaaa agtggagtct tgttcaactg agaacttgga gcttcggaag
1080
aaggtagaga ccctggagaa tgccaacagc ttctccagcg ggatccagcc actcctctgt
1140
tccctgattg gctggagaa tcccacctga ccccccaccc caccctctg tctctggctg
1200
gggttccttt ctggcccaaa gtaggtccaa gcccttgtag ttatttcgcc acctgctgta
1260
cattgtggga actgcaaccc ctacgtgccc gtttgggtgg agagagatta aacatttgcc
1320
caccaaaaa
1329
```

```
<210> 5468
<211> 363
<212> PRT
<213> Homo sapiens
```

```
<400> 5468
Met Asp Ala Val Leu Glu Pro Phe Pro Ala Asp Arg Leu Phe Pro Gly
1               5                   10                  15
Ser Ser Phe Leu Asp Leu Gly Asp Leu Asn Glu Ser Asp Phe Leu Asn
                20                  25                  30
Asn Ala His Phe Pro Glu His Leu Asp His Phe Thr Glu Asn Met Glu
            35                  40                  45
Asp Phe Ser Asn Asp Leu Phe Ser Ser Phe Phe Asp Asp Pro Val Leu
        50                  55                  60
Asp Glu Lys Ser Pro Leu Leu Asp Met Glu Leu Asp Ser Pro Thr Pro
65                  70                  75                  80
Gly Ile Gln Ala Glu His Ser Tyr Ser Leu Ser Gly Asp Ser Ala Pro
                85                  90                  95
Gln Ser Pro Leu Val Pro Ile Lys Met Glu Asp Thr Thr Gln Asp Ala
                100                 105                 110
Glu His Gly Ala Trp Ala Leu Gly His Lys Leu Cys Ser Ile Met Val
            115                 120                 125
Lys Gln Glu Gln Ser Pro Glu Leu Pro Val Asp Pro Leu Ala Ala Pro
        130                 135                 140
Ser Ala Met Ala Ala Ala Ala Ala Met Ala Thr Thr Pro Leu Leu Gly
145                 150                 155                 160
Leu Ser Pro Leu Ser Arg Leu Pro Ile Pro His Gln Ala Pro Gly Glu
```

4644

```
                     165                  170                    175
Met Thr Gln Leu Pro Val Ile Lys Ala Glu Pro Leu Glu Val Asn Gln
                180                  185                    190
Phe Leu Lys Val Thr Pro Glu Asp Leu Val Gln Met Pro Pro Thr Pro
            195                  200                    205
Pro Ser Ser His Gly Ser Asp Ser Asp Gly Ser Gln Ser Pro Arg Ser
        210                  215                    220
Leu Pro Pro Ser Ser Pro Val Arg Pro Met Ala Arg Ser Ser Thr Ala
    225                  230                  235                240
Ile Ser Ser Ser Pro Leu Leu Thr Ala Pro His Lys Leu Gln Gly Thr
                245                  250                    255
Ser Gly Pro Leu Val Leu Thr Glu Glu Glu Lys Arg Thr Leu Ile Ala
            260                  265                    270
Glu Gly Tyr Pro Ile Pro Thr Lys Leu Pro Leu Thr Lys Ser Glu Glu
        275                  280                    285
Lys Ala Leu Lys Lys Ile Arg Arg Lys Ile Lys Asn Lys Ile Ser Ala
    290                  295                  300
Gln Glu Ser Arg Arg Lys Lys Lys Glu Tyr Met Asp Ser Leu Glu Lys
    305                  310                  315                320
Lys Val Glu Ser Cys Ser Thr Glu Asn Leu Glu Leu Arg Lys Lys Val
                325                  330                    335
Glu Thr Leu Glu Asn Ala Asn Ser Phe Ser Ser Gly Ile Gln Pro Leu
            340                  345                    350
Leu Cys Ser Leu Ile Gly Leu Glu Asn Pro Thr
        355                  360
```

```
<210> 5469
<211> 1292
<212> DNA
<213> Homo sapiens

<400> 5469
nncgcggccg cgtcgacgga aggggaggac gtgggatggt ggcggagctg gctgcagcag
60
agctaccaag cagtcaaaga gaagtcctct gaagccttgg agtttatgaa gcgggacctg
120
acggagttta cccaggtggt gcagcatgac acggcctgta ccatcgcagc cacggccagc
180
gtggtcaagg agaagctggc tacggaaggc tcctcaggag caacagagaa gatgaagaaa
240
gggttatctg acttcctagg ggtgatctca gacacctttg cccttcgcc agacaaaacc
300
atcgactgcg atgtcatcac cctgatgggc acaccgtctg gcacagctga gccctatgat
360
ggcaccaagg ctcgcctcta tagcctgcag tcggacccag caacctactg taatgaacca
420
gatgggcccc cggaattgtt tgacgcctgg ctttcccagt tctgcttgga ggagaagaag
480
ggggagatct cagagctcct tgtaggcagc ccctccatcc gggccctcta caccaagatg
540
gttccagcag ctgtttccca ttcagaattc tggcatcggt atttctataa agtccatcag
600
ttagagcagg agcaggcccg gagggacgcc ctgaagcagc gggcggaaca gagcatctct
660
```

```
gaagagcccg gctgggagga ggaggaagag gagctcatgg gcatttcacc catatctcca
720
aaagaggcaa aggttcctgt ggccaaaatt tctacattcc ctgaaggaga acctggcccc
780
cagagcccct gtgaagagaa tctggtgact tcagttgagc ccccagcaga ggtgactcca
840
tcagagagca gtgagagcat ctccctcgtg acacagatcg ccaacccggc cactgcacct
900
gaggcacgag tgctacccaa ggacctgtcc caaaagctgc tagaggcatc cttggaggaa
960
cagggcctgg ctgtggatgt gggtgagact ggaccctcac ccctattca ctccaagccc
1020
ctaacgcctg ctggccacac cggcggccca gagcccaggc ctccagccag agtagagact
1080
ctgagggagg aggcgcccac agacttacgg gtgtttgagc tgaactcgga tagtgggaag
1140
tctacaccct ccaacaatgg aaagaaaggc tcaagcacgg acatcagtga ggactgggag
1200
aaagactttg acttggacat gactgaagag gaggtgcaga tggcactttc caaagtggat
1260
gcctccgggg agctgaagat gtagagggggg aa
1292


<210> 5470
<211> 427
<212> PRT
<213> Homo sapiens


<400> 5470
Xaa Ala Ala Ala Ser Thr Glu Gly Glu Asp Val Gly Trp Trp Arg Ser
1               5                   10                  15
Trp Leu Gln Gln Ser Tyr Gln Ala Val Lys Glu Lys Ser Ser Glu Ala
            20                  25                  30
Leu Glu Phe Met Lys Arg Asp Leu Thr Glu Phe Thr Gln Val Val Gln
        35                  40                  45
His Asp Thr Ala Cys Thr Ile Ala Ala Thr Ala Ser Val Val Lys Glu
    50                  55                  60
Lys Leu Ala Thr Glu Gly Ser Ser Gly Ala Thr Glu Lys Met Lys Lys
65                  70                  75                  80
Gly Leu Ser Asp Phe Leu Gly Val Ile Ser Asp Thr Phe Ala Pro Ser
                85                  90                  95
Pro Asp Lys Thr Ile Asp Cys Asp Val Ile Thr Leu Met Gly Thr Pro
            100                 105                 110
Ser Gly Thr Ala Glu Pro Tyr Asp Gly Thr Lys Ala Arg Leu Tyr Ser
        115                 120                 125
Leu Gln Ser Asp Pro Ala Thr Tyr Cys Asn Glu Pro Asp Gly Pro Pro
    130                 135                 140
Glu Leu Phe Asp Ala Trp Leu Ser Gln Phe Cys Leu Glu Glu Lys Lys
145                 150                 155                 160
Gly Glu Ile Ser Glu Leu Leu Val Gly Ser Pro Ser Ile Arg Ala Leu
                165                 170                 175
Tyr Thr Lys Met Val Pro Ala Ala Val Ser His Ser Glu Phe Trp His
            180                 185                 190
Arg Tyr Phe Tyr Lys Val His Gln Leu Glu Gln Glu Gln Ala Arg Arg
```

```
            195                    200                    205
Asp Ala Leu Lys Gln Arg Ala Glu Gln Ser Ile Ser Glu Glu Pro Gly
        210                    215                    220
Trp Glu Glu Glu Glu Glu Glu Leu Met Gly Ile Ser Pro Ile Ser Pro
225                    230                    235                    240
Lys Glu Ala Lys Val Pro Val Ala Lys Ile Ser Thr Phe Pro Glu Gly
                245                    250                    255
Glu Pro Gly Pro Gln Ser Pro Cys Glu Glu Asn Leu Val Thr Ser Val
            260                    265                    270
Glu Pro Pro Ala Glu Val Thr Pro Ser Glu Ser Ser Glu Ser Ile Ser
        275                    280                    285
Leu Val Thr Gln Ile Ala Asn Pro Ala Thr Ala Pro Glu Ala Arg Val
    290                    295                    300
Leu Pro Lys Asp Leu Ser Gln Lys Leu Leu Glu Ala Ser Leu Glu Glu
305                    310                    315                    320
Gln Gly Leu Ala Val Asp Val Gly Glu Thr Gly Pro Ser Pro Pro Ile
                325                    330                    335
His Ser Lys Pro Leu Thr Pro Ala Gly His Thr Gly Gly Pro Glu Pro
            340                    345                    350
Arg Pro Pro Ala Arg Val Glu Thr Leu Arg Glu Glu Ala Pro Thr Asp
        355                    360                    365
Leu Arg Val Phe Glu Leu Asn Ser Asp Ser Gly Lys Ser Thr Pro Ser
    370                    375                    380
Asn Asn Gly Lys Lys Gly Ser Ser Thr Asp Ile Ser Glu Asp Trp Glu
385                    390                    395                    400
Lys Asp Phe Asp Leu Asp Met Thr Glu Glu Glu Val Gln Met Ala Leu
                405                    410                    415
Ser Lys Val Asp Ala Ser Gly Glu Leu Lys Met
            420                    425
```

<210> 5471
<211> 534
<212> DNA
<213> Homo sapiens

<400> 5471
cggccgcccc gcgggggcgc agaaatagga ccgtcctggc agaggctgca gccgacccag
60
ctggccccac tacgcggggc ccagagccag ggtgggggat gcagagaccg ggcgtgcggg
120
ttgccaggtg tggcgcacat gtgtgcccgt gggcagagta cagagacaca agcttgtgtg
180
gacacgaatg tgtagctatg tgcgagtgca cacggagtgg tgagtgcagg accccaggc
240
cggcctgcgt cggtgcgcag ggcatatagg ggcgtgcacg cagtcttgga ggtgtgtgca
300
cagagccccc ggcacccgcg tgtgtgcaaa gacacaggaa cccgtctgcg tggcgctgtg
360
tgtgcaaccc aaggaggtgg gcgcttggac tccaaagtgt gcgcttatcc ggatgtggat
420
gtggggcag ccggggacag ggctgggtgt gcgtgactcg ggtgtgccgg acccacaga
480
gcatatgtgt ccatgcctgg tgctgtgact catgtccctg gggtgggcac gcgt
534

<210> 5472
<211> 161
<212> PRT
<213> Homo sapiens

<400> 5472
Met Leu Cys Gly Ser Arg His Thr Arg Val Thr His Thr Gln Pro Cys
1   5   10   15
Pro Arg Leu Pro Pro His Pro His Pro Asp Lys Arg Thr Leu Trp Ser
            20   25   30
Pro Ser Ala His Leu Leu Gly Leu His Thr Gln Arg His Ala Asp Gly
        35   40   45
Phe Leu Cys Leu Cys Thr His Ala Gly Ala Gly Gly Ser Val His Thr
    50   55   60
Pro Pro Arg Leu Arg Ala Arg Pro Tyr Met Pro Cys Ala Pro Thr Gln
65   70   75   80
Ala Gly Leu Gly Ser Leu His Ser Pro Leu Arg Val His Ser His Ile
                85   90   95
Ala Thr His Ser Cys Pro His Lys Leu Val Ser Leu Tyr Ser Ala His
            100   105   110
Gly His Thr Cys Ala Pro His Leu Ala Thr Arg Thr Pro Gly Leu Cys
        115   120   125
Ile Pro His Pro Gly Ser Gly Pro Arg Val Val Gly Pro Ala Gly Ser
    130   135   140
Ala Ala Ala Ser Ala Arg Thr Val Leu Phe Leu Arg Pro Arg Gly Ala
145   150   155   160
Ala

<210> 5473
<211> 691
<212> DNA
<213> Homo sapiens

<400> 5473
gcgaccagca gcgctggtgg ccatgctctt ggacactacg gcctggcggg cagccctcgc
60
cgctgccgcg ccccgcgccc ccaggaggcc gcaccctgcg ccagggcccg gagacagcaa
120
catcttctgg ggcctgcagg agacctgaca gatgccaaaa caaaggaaca gttgggatcc
180
aggcagcatg aggtagaatg gcaaacctac cagggtattc tgaagaagac aagagtcatg
240
gaaaaaacca agtggctgga tatcaaagga aatcatgaaa aagatggagg agctcttatt
300
actggccaag gaaagcagtc ggagcaacca tacaatttgg tttggacact ttacaacatc
360
cactattctt tctccatcac caggaatccg gtcaataatg agttcggcta tagcttattt
420
gtgtggacat ctccatacac ttggtggact gatgcctgtt ttgcacactc gtcacttcca
480
gggcactttg aacttgagg tgggagactg gaaggataat aggaggtacc ggattttttgc
540

ttttgatcac gacctcttta gctttgcaga tttgatcttt gggaagtggc ctgtggttct
600
tatcaccaat cctaaatcac tcctttatag ttgtggtgaa catgaaccac tagaaagact
660
tcttcactca acccacatta gattggtaac a
691

<210> 5474
<211> 139
<212> PRT
<213> Homo sapiens

<400> 5474
Met Lys Lys Met Glu Glu Leu Leu Leu Ala Lys Glu Ser Ser Arg
 1   5   10   15
Ser Asn His Thr Ile Trp Phe Gly His Phe Thr Thr Ser Thr Ile Leu
            20   25   30
Ser Pro Ser Pro Gly Ile Arg Ser Ile Met Ser Ser Ala Ile Ala Tyr
            35   40   45
Leu Cys Gly His Leu His Thr Leu Gly Gly Leu Met Pro Val Leu His
       50   55   60
Thr Arg His Phe Gln Gly Thr Leu Glu Leu Glu Val Gly Asp Trp Lys
65   70   75   80
Asp Asn Arg Arg Tyr Arg Ile Phe Ala Phe Asp His Asp Leu Phe Ser
                85   90   95
Phe Ala Asp Leu Ile Phe Gly Lys Trp Pro Val Val Leu Ile Thr Asn
            100   105   110
Pro Lys Ser Leu Leu Tyr Ser Cys Gly Glu His Glu Pro Leu Glu Arg
            115   120   125
Leu Leu His Ser Thr His Ile Arg Leu Val Thr
       130   135

<210> 5475
<211> 628
<212> DNA
<213> Homo sapiens

<400> 5475
ggcacacacg aaacagcctt cctgggaccc aaggacctgt tcccctacga caaatgtaaa
60
gacaagtacg ggaagcccaa caagaggaaa ggcttcaatg aagggctgtg ggagatccag
120
aacaaccccc acgccagcta cagcgcccct ccgccagtga gctcctccga cagcgaggcc
180
cccgaggcca accccgccga cggcagtgac gctgacgagg acgatgagga ccggggggtc
240
atggccgtca cagcggtaac cgccacagct gccagcgaca ggatggagag cgactcagac
300
tcagacaaga gtagcgacaa cagtggcctg aagaggaaga cgcctgcgct aaagatgtcg
360
gtctcgaaac gagcccgaaa ggcctccagc gacctggatc aggccagcgt gtccccatcc
420
gaagaggaga actcggaaag ctcatctgag tcggagaaga ccagcgacca ggacttcaca
480

```
cctgagaaga aagcagcggt ccgggcgcca cggaggggcc ctctgggggg acggaaaaaa
540
aagaaggcgc cgtcagcctc cgactccgac tccaaggccg attcggacgg ggccaagcct
600
gagccggtgg ccatggcgcg gtcggcgt
628
```

```
<210> 5476
<211> 209
<212> PRT
<213> Homo sapiens
```

```
<400> 5476
Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro Tyr
1               5                   10                  15
Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys Gly Phe
            20                  25                  30
Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala Ser Tyr Ser
        35                  40                  45
Ala Pro Pro Val Ser Ser Ser Asp Ser Glu Ala Pro Glu Ala Asn
        50                  55                  60
Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Asp Glu Asp Arg Gly Val
65                  70                  75                  80
Met Ala Val Thr Ala Val Thr Ala Thr Ala Ala Ser Asp Arg Met Glu
                85                  90                  95
Ser Asp Ser Asp Ser Asp Lys Ser Ser Asp Asn Ser Gly Leu Lys Arg
            100                 105                 110
Lys Thr Pro Ala Leu Lys Met Ser Val Ser Lys Arg Ala Arg Lys Ala
        115                 120                 125
Ser Ser Asp Leu Asp Gln Ala Ser Val Ser Pro Ser Glu Glu Glu Asn
        130                 135                 140
Ser Glu Ser Ser Ser Glu Ser Glu Lys Thr Ser Asp Gln Asp Phe Thr
145                 150                 155                 160
Pro Glu Lys Lys Ala Ala Val Arg Ala Pro Arg Arg Gly Pro Leu Gly
                165                 170                 175
Gly Arg Lys Lys Lys Lys Ala Pro Ser Ala Ser Asp Ser Asp Ser Lys
            180                 185                 190
Ala Asp Ser Asp Gly Ala Lys Pro Glu Pro Val Ala Met Ala Arg Ser
        195                 200                 205
Ala
```

```
<210> 5477
<211> 727
<212> DNA
<213> Homo sapiens
```

```
<400> 5477
tttttttgtta gtgtttcctt tattataaag cactgaaata agttaaataa acaggtggga
60
ggctgggcag tcccccagcc ggtttgtcca cagcccctgg gggcagtgga ggtgaataca
120
gggcccttct cactgagctc gtgaagtgcc tcagtcaagg caaggtcccc tggtccatat
180
```

4650

```
gggcccccc gcccatgggg ttgggctggt ccttatagtg cctacgttag tctgtgtgga
240
gccctggcc agcggggag aaaaggtgg cttctggtcc gtctgtataa aacatggccc
300
ctcacctgtc ggcccccac acagctggca ggctgggctg gcctctcacc cctggcctcc
360
cctggacccc tggctggctc ctcaacttca ctctccgcac ttagtgcccg gccgcccca
420
gactcatcgt cgctcagccc atagggaagc ccaggcctgg cccccagaga gtctccttcc
480
gagtctctct cgaagcccat gagctggtca ctgttgccgt cgccttcctc ctcttcctct
540
tcctcctcaa actccagatc ctggcctagt agcaaatcac tctccaatac cagggccccg
600
ggtccttcgt cgagggagtc ttcagtatcc actttgaccc cctcgcattt cacgggctgc
660
gggtggcttt gcttccttcg gggcatcgtg accggctcca gcccgacgcg cctccggcct
720
gcggccg
727
```

```
<210> 5478
<211> 99
<212> PRT
<213> Homo sapiens

<400> 5478
Ser Ala Ser Val Lys Ala Arg Ser Pro Gly Pro Tyr Gly Pro Pro Arg
1               5                   10                  15
Pro Trp Gly Trp Ala Gly Pro Tyr Ser Ala Tyr Val Ser Leu Cys Gly
                20                  25                  30
Ala Pro Gly Gln Arg Gly Arg Lys Arg Trp Leu Leu Val Arg Leu Tyr
            35                  40                  45
Lys Thr Trp Pro Leu Thr Cys Arg Pro Pro Thr Gln Leu Ala Gly Trp
        50                  55                  60
Ala Gly Leu Ser Pro Leu Ala Ser Pro Gly Pro Leu Ala Gly Ser Ser
65                  70                  75                  80
Thr Ser Leu Ser Ala Leu Ser Ala Arg Pro Pro Pro Asp Ser Ser Ser
                85                  90                  95
Leu Ser Pro
```

```
<210> 5479
<211> 1386
<212> DNA
<213> Homo sapiens

<400> 5479
gccggcacca cagaccgaga agaagccact cggctcttgg ctgagaagcg gcgccaggcc
60
cgggagcagc gggagcgcga ggagcaggag cggaggctgc aggcagaaag ggacaagcga
120
atgcgagagg agcagctggc acgggaggcc gaggcccggg cggagcggga ggcggaggcc
180
```

cggaggcggg aggagcagga ggcacgagag aaggcgcagg ccgagcagga ggagcaggag
240
cggctgcaga agcagaaaga ggaggccgaa gctcggtcgc gggaagaggc ggagcggcag
300
cgtctggagc gggaaaagca cttccagcag caggagcaag agcggcaaga gcgcagaaag
360
cgtctggagg agatcatgaa gaggactcgg aagtcagaag tttctgaaac caagcagaag
420
caggacagca aggaggccaa cgccaacggt tccagcccag agcctgtgaa agctgtggag
480
gctcggtccc cagggctgca gaaggaggct gtgcagaaag aggagcccat cccacaggag
540
cctcagtgga gtctcccaag caaggagttg ccagcgtccc tggtgaatgg cctgcagcct
600
ctcccagcac accaggagaa tggcttctcc accaacggac cctctgggga caagagtctg
660
agccgaacac cagagacact cctgcccttt gcagaggcag aagccttcct caagaaagct
720
gtggtgcagt ccccgcaggt cacagaagtc ctttaagagg gtttgccttg gatccgggca
780
cagttgtgag ggctcctctg catcacctac caggatgtct ggaggagaaa aagacagaac
840
aaagatggaa gtggcctggg cccctggggg tgggtcctct ctgttgtttt taatctgcac
900
cttatagact gatgtctctt tggccggagc cagatctgcc cctcagtgca ttcgtgtgct
960
cgcacgcgca gacatccctt ctcccccata cacacatata cactcacagc ctctctggcc
1020
tcttcccttg gggaggggcc acctgtagta tttgccttga tttggtgggg tacagtggat
1080
gtgaatactg taaatagctt gtgctcagac tcctctgcgt ggagagggtg ggtgcaggag
1140
gcagaccctc cccccaaagc ccctggggga gatcttcctc tctctatttta actgtaactg
1200
aggggatcc caggtctggg gatgggggac accttgggcc acaggatact ggttgcttca
1260
ggggtaccca tgccccctgc cctcgcctgg aatcagtgtt actgcatctg attaaatgtc
1320
tccagaaata aagaataatt ctgccaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1380
aaaaaa
1386

<210> 5480
<211> 251
<212> PRT
<213> Homo sapiens

<400> 5480
Ala Gly Thr Thr Asp Arg Glu Glu Ala Thr Arg Leu Leu Ala Glu Lys
1   5   10   15
Arg Arg Gln Ala Arg Glu Gln Arg Glu Arg Glu Glu Gln Glu Arg Arg
                20   25   30
Leu Gln Ala Glu Arg Asp Lys Arg Met Arg Glu Glu Gln Leu Ala Arg

```
              35                    40                    45
Glu Ala Glu Ala Arg Ala Glu Arg Glu Ala Glu Ala Arg Arg Arg Glu
     50                    55                    60
Glu Gln Glu Ala Arg Glu Lys Ala Gln Ala Glu Gln Glu Glu Gln Glu
65                    70                    75                    80
Arg Leu Gln Lys Gln Lys Glu Glu Ala Glu Ala Arg Ser Arg Glu Glu
                 85                    90                    95
Ala Glu Arg Gln Arg Leu Glu Arg Glu Lys His Phe Gln Gln Gln Glu
             100                   105                   110
Gln Glu Arg Gln Glu Arg Arg Lys Arg Leu Glu Glu Ile Met Lys Arg
         115                   120                   125
Thr Arg Lys Ser Glu Val Ser Glu Thr Lys Gln Lys Gln Asp Ser Lys
     130                   135                   140
Glu Ala Asn Ala Asn Gly Ser Ser Pro Glu Pro Val Lys Ala Val Glu
145                   150                   155                   160
Ala Arg Ser Pro Gly Leu Gln Lys Glu Ala Val Gln Lys Glu Glu Pro
                 165                   170                   175
Ile Pro Gln Glu Pro Gln Trp Ser Leu Pro Ser Lys Glu Leu Pro Ala
             180                   185                   190
Ser Leu Val Asn Gly Leu Gln Pro Leu Pro Ala His Gln Glu Asn Gly
         195                   200                   205
Phe Ser Thr Asn Gly Pro Ser Gly Asp Lys Ser Leu Ser Arg Thr Pro
     210                   215                   220
Glu Thr Leu Leu Pro Phe Ala Glu Ala Glu Ala Phe Leu Lys Lys Ala
225                   230                   235                   240
Val Val Gln Ser Pro Gln Val Thr Glu Val Leu
                 245                   250
```

```
<210> 5481
<211> 1513
<212> DNA
<213> Homo sapiens
```

```
<400> 5481
tgtccaatga ggagccagcg ccggattgct tcaggacaga ctatttctga gtctcggcgg
60
aaggcggagg gaaggccgtg gggatggcca atcaaagggg gcgactcagg tcggtgggga
120
ccggcagcca atcaggagag cgctcgctcc tgactcgacc ggcccacgct cccgccagt
180
cccctaaccc tgaggctgcc gcgcggcggt cactgcgccg gggtagtggg ccccagtgtt
240
gcgctctctg gccgttcctt acactttgct tcaggctcca gtgcaggggc gtagtgggat
300
atggccaact cgggctgcaa ggacgtcacg ggtccagatg aggagagttt tctgtacttt
360
gcctacggca gcaacctgct gacagagagg atccacctcc gaaacccctc ggcggcgttc
420
ttctgtgtgg cccgcctgca ggattttaag cttgactttg caattccca aggcaaaaca
480
agtcaaactt ggcatggagg gatagccacc atttttcaga gtcctggcga tgaattgtgg
540
ggagtagtat ggaaaatgaa caaaagcaat ttaaattctc tggatgagca agaagggggtt
600
```

```
aaaagtggaa tgtatgttgt aatagaagtt aaagttgcaa ctcaagaagg aaaagaaata
660
acctgtcgaa gttatctgat gacaaattac gaaagtgctc ccccatcccc acagtataaa
720
aagattattt gcatgggtgc aaaagaaaat ggtttgccgc tggagtatca agagaagtta
780
aaagcaatag aaccaaatga ctatacagga aaggtctcag aagaaattga agacatcatc
840
aaaaaggggg aaacacaaac tctttagaac ataacagaat atatctaagg gtattctatg
900
tgctaatata aaatattttt aacacttgag aacagggatc tggggggatct ccacgtttga
960
tccattttca gcagtgctct gaaggagtat cttacttggg tgattccttg tttttagact
1020
ataaaaagaa actgggatag gagttagaca atttaaaagg ggtgtatgag ggcctgaaat
1080
atgtgacaaa tgaatgtgag tacccttct gtgaacactg aaagctattc tcttgaattg
1140
atcttaagtg tctccttgct ctggtaaaag atagatttgt agctcacttg atgatggtgc
1200
tggtgaattg ctctgctctg tctgagattt ttaaaaatca gcttaatgag agtaatctgc
1260
agacaattga taataacatt ttgaaaattg gaaagatggt atactgtttt tagaggaata
1320
aacgtatttg tggtttaaaa aaaaaagagc aacttccttt gcactgtata cccttttgta
1380
ttattaggat tttatactat gtttatatgt tgcctattta ataaatcgct taaagttata
1440
tatcttgaat atctttccat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1500
aaaaaaaaaa aaa
1513
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<210> 5482
<211> 188
<212> PRT
<213> Homo sapiens

<400> 5482
Met Ala Asn Ser Gly Cys Lys Asp Val Thr Gly Pro Asp Glu Glu Ser
1               5                   10                  15
Phe Leu Tyr Phe Ala Tyr Gly Ser Asn Leu Leu Thr Glu Arg Ile His
            20                  25                  30
Leu Arg Asn Pro Ser Ala Ala Phe Phe Cys Val Ala Arg Leu Gln Asp
        35                  40                  45
Phe Lys Leu Asp Phe Gly Asn Ser Gln Gly Lys Thr Ser Gln Thr Trp
    50                  55                  60
His Gly Gly Ile Ala Thr Ile Phe Gln Ser Pro Gly Asp Glu Leu Trp
65                  70                  75                  80
Gly Val Val Trp Lys Met Asn Lys Ser Asn Leu Asn Ser Leu Asp Glu
                85                  90                  95
Gln Glu Gly Val Lys Ser Gly Met Tyr Val Val Ile Glu Val Lys Val
            100                 105                 110
Ala Thr Gln Glu Gly Lys Glu Ile Thr Cys Arg Ser Tyr Leu Met Thr
```

```
       115                    120                    125
Asn Tyr Glu Ser Ala Pro Pro Ser Pro Gln Tyr Lys Lys Ile Ile Cys
    130                    135                    140
Met Gly Ala Lys Glu Asn Gly Leu Pro Leu Glu Tyr Gln Glu Lys Leu
145                    150                    155                    160
Lys Ala Ile Glu Pro Asn Asp Tyr Thr Gly Lys Val Ser Glu Glu Ile
                   165                    170                    175
Glu Asp Ile Ile Lys Lys Gly Glu Thr Gln Thr Leu
               180                    185
```

<210> 5483
<211> 1552
<212> DNA
<213> Homo sapiens

<400> 5483
actttcctcg acagccactg tgaggtgaac agggactggc tccagcctct nttngacagg
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gtcaaagagg actacacgcg ggtggtgtgc cctgtgatcg atatcattaa cctggacacc
120
ttcacctaca tcgagtctgc ctcggagctc agaggggggt ttgactggag cctccacttc
180
cagtgggagc agctctcccc agagcagaag gctcggcgcc tggaccccac ggagcccatc
240
aggactccta tcatagctgg agggctcttc gtgatcgaca agcttggtt tgattacctg
300
gggaaatatg atatggacat ggacatctgg ggtggggaga actttgaaat ctccttccga
360
gtgtggatgt gcggggggcag cctagagatc gtcccctgca gccgagtggg gcacgtcttc
420
cggaagaagc acccctacgt tttccctgat ggaaatgcca cacgtatat aaagaacacc
480
aagcggacag ctgaagtgtg gatggatgaa tacaagcaat actattacgc tgcccggcca
540
ttcgccctgg agaggccctt cgggaatgtt gagagcagat tggacctgag gaagaatctg
600
cgctgccaga gcttcaagtg gtacctggag aatatctacc ctgaactcag catccccaag
660
gagttctcca tccagaaggg caatatccga cagagacaga agtgcctgga atctcaaagg
720
cagaacaacc aagaaacccc aaacctaaag ttgagcccct gtgccaaggt caaaggcgaa
780
gatgcaaagt cccaggtatg ggccttcaca tacacccaga agatcctcca ggaggagctg
840
tgcctgtcag tcatcacctt gttccctggc gccccagtgg ttcttgtcct ttgcaagaat
900
ggagatgacc gacagcaatg gaccaaaact ggttcccaca tcgagcacat agcatcccac
960
ctctgcctcg atacagatat gttcggtgat ggcaccgaga cggcaagga aatcgtcgtc
1020
aacccatgtg agtcctcact catgagccag cactgggaca tggtgagctc ttgaggaccc
1080
ctgccagaag cagcaagggc catggggtgg tgcttccctg gaccagaaca gactggaaac
1140
```

```
tgggcagcaa gcagcctgca accacctcag acatcctgga ctgggaggtg gaggcagagc
1200
cccccaggac aggagcaact gtctcaggga ggacagagga aaacatcaca agccaatggg
1260
gctcaaagac aaatcccaca tgttctcaag gccgttaagt tccagtcctg gccagtcatt
1320
ccctgattgg tatctggaga cagaaaccta atgggaagtg tttattgttc cttttcctac
1380
aaaggaagca gtctctggag gccagaaaga aaagccttct ttttcactag gccaggacta
1440
cattgagaga tgaagaatgg aggttgtttc caaagaaat aaagagaaac ttagaagttg
1500
tctctggaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa aa
1552


<210> 5484
<211> 357
<212> PRT
<213> Homo sapiens


<400> 5484
Thr Phe Leu Asp Ser His Cys Glu Val Asn Arg Asp Trp Leu Gln Pro
1               5                   10                  15
Leu Xaa Asp Arg Val Lys Glu Asp Tyr Thr Arg Val Val Cys Pro Val
            20                  25                  30
Ile Asp Ile Ile Asn Leu Asp Thr Phe Thr Tyr Ile Glu Ser Ala Ser
        35                  40                  45
Glu Leu Arg Gly Gly Phe Asp Trp Ser Leu His Phe Gln Trp Glu Gln
    50                  55                  60
Leu Ser Pro Glu Gln Lys Ala Arg Arg Leu Asp Pro Thr Glu Pro Ile
65                  70                  75                  80
Arg Thr Pro Ile Ile Ala Gly Gly Leu Phe Val Ile Asp Lys Ala Trp
                85                  90                  95
Phe Asp Tyr Leu Gly Lys Tyr Asp Met Asp Met Asp Ile Trp Gly Gly
            100                 105                 110
Glu Asn Phe Glu Ile Ser Phe Arg Val Trp Met Cys Gly Gly Ser Leu
        115                 120                 125
Glu Ile Val Pro Cys Ser Arg Val Gly His Val Phe Arg Lys Lys His
    130                 135                 140
Pro Tyr Val Phe Pro Asp Gly Asn Ala Asn Thr Tyr Ile Lys Asn Thr
145                 150                 155                 160
Lys Arg Thr Ala Glu Val Trp Met Asp Glu Tyr Lys Gln Tyr Tyr Tyr
                165                 170                 175
Ala Ala Arg Pro Phe Ala Leu Glu Arg Pro Phe Gly Asn Val Glu Ser
            180                 185                 190
Arg Leu Asp Leu Arg Lys Asn Leu Arg Cys Gln Ser Phe Lys Trp Tyr
        195                 200                 205
Leu Glu Asn Ile Tyr Pro Glu Leu Ser Ile Pro Lys Glu Phe Ser Ile
    210                 215                 220
Gln Lys Gly Asn Ile Arg Gln Arg Gln Lys Cys Leu Glu Ser Gln Arg
225                 230                 235                 240
Gln Asn Asn Gln Glu Thr Pro Asn Leu Lys Leu Ser Pro Cys Ala Lys
                245                 250                 255
Val Lys Gly Glu Asp Ala Lys Ser Gln Val Trp Ala Phe Thr Tyr Thr
```

```
                     260                  265                  270
Gln Lys Ile Leu Gln Glu Glu Leu Cys Leu Ser Val Ile Thr Leu Phe
                 275                  280                  285
Pro Gly Ala Pro Val Val Leu Val Leu Cys Lys Asn Gly Asp Asp Arg
             290                  295                  300
Gln Gln Trp Thr Lys Thr Gly Ser His Ile Glu His Ile Ala Ser His
         305                  310                  315                  320
Leu Cys Leu Asp Thr Asp Met Phe Gly Asp Gly Thr Glu Asn Gly Lys
                     325                  330                  335
Glu Ile Val Val Asn Pro Cys Glu Ser Ser Leu Met Ser Gln His Trp
                 340                  345                  350
Asp Met Val Ser Ser
             355


<210> 5485
<211> 1549
<212> DNA
<213> Homo sapiens


<400> 5485
nacgcgtgaa gggcgtacgc gatcgcgcgg ggacagcgct actgcggctt tggtcgcaca
60
gtgtacccgg aggagcacag cagatggagg gacagctcca ggacgaggtt gtggaattcg
120
ccgttcgaaa gcagggacta aaagccccac ttcgtcttac gttccgaaag gaaggcgtct
180
gttgagcctt tctctcagtc gtgagggagg cgtcgacggc gtgcggaagt cctgagttga
240
ggcttgcggg atcctttccg gagaaagcgc aggctaaagc cgcaggtgaa gatgtccaac
300
tacgtgaacg acatgtggcc gggctcgccg caggagaagg attcgccctc gacctcgcgg
360
tcgggcgggt ccagccggct gtcgtcgcgg tctaggagcc gctcttttc cagaagctct
420
cggtcccatt cccgcgtctc gagccggttt tcgtccagga gtcggaggag caagtccagg
480
tcccgttccc gaaggcgcca ccagcggaag tacaggcgct actcgcggtc atactcgcgg
540
agccggtcgc gatcccgcag ccgccgttac cgagagaggc gctacgggtt caccaggaga
600
tactaccggt ctccttcgcg gtaccggtcc cggtcccgta gcaggtcgcg ctctcgggga
660
aggtcgtact gcggaagggc gtacgcgatc gcgcggggac agcgctacta cggctttggt
720
cgcacagtgt acccggagga gcacagcaga tggagggaca gatccaggac gaggtcgcgg
780
agcagaaccc cctttcgctt aagtgaaaaa gatcgaatgg agctgttaga aatagcaaaa
840
accaatgcag cgaaagctct aggaacaacc aacattgact tgccagctag tctcagaact
900
gttccttcag ccaaagaaac aagccgtgga ataggtgtat caagtaatgg tgcaaagcct
960
gaactgtcgg aaaaggtaac agaagatgga actcgaaatc ccaatgaaaa acctacccag
1020
```

```
caaagaagca tagcttttag ctctaataat tctgtagcaa agccaataca aaaatcagct
1080
aaagctgcca cagaagaggc atcttcaaga tcaccaaaaa tagatcagaa aaaaagtcca
1140
tatggactgt ggatacctat ctaaaagaag aaaactgatg gctaagtttg catgaaaact
1200
gcactttatt gcaagttagt gtttctagca ttatcccatc cctttgagcc attcaggggt
1260
acttgtgcat ttaaaaacca acacaaaaag atgtaaatac ttaacactca aatattaaca
1320
ttttaggttt ctcttgcaga tatgagagat agcacagatg gaccaaaggt tatgcacagg
1380
tgggagtctt ttgtatatag ttgtaaatat tgtcttggtt atgtaaaaat gaaatttttt
1440
agacacagta attgaactgt attcctgttt tgtatattta ataaatttct tgttttcatt
1500
cttaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaga
1549


<210> 5486
<211> 290
<212> PRT
<213> Homo sapiens

<400> 5486
Met Ser Asn Tyr Val Asn Asp Met Trp Pro Gly Ser Pro Gln Glu Lys
 1               5                  10                  15
Asp Ser Pro Ser Thr Ser Arg Ser Gly Gly Ser Ser Arg Leu Ser Ser
            20                  25                  30
Arg Ser Arg Ser Arg Ser Phe Ser Arg Ser Ser Arg Ser His Ser Arg
            35                  40                  45
Val Ser Ser Arg Phe Ser Ser Arg Ser Arg Arg Ser Lys Ser Arg Ser
        50                  55                  60
Arg Ser Arg Arg Arg His Gln Arg Lys Tyr Arg Arg Tyr Ser Arg Ser
65                  70                  75                  80
Tyr Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg Arg Tyr Arg Glu Arg
                85                  90                  95
Arg Tyr Gly Phe Thr Arg Arg Tyr Tyr Arg Ser Pro Ser Arg Tyr Arg
            100                 105                 110
Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg Gly Arg Ser Tyr Cys Gly
        115                 120                 125
Arg Ala Tyr Ala Ile Ala Arg Gly Gln Arg Tyr Tyr Gly Phe Gly Arg
    130                 135                 140
Thr Val Tyr Pro Glu Glu His Ser Arg Trp Arg Asp Arg Ser Arg Thr
145                 150                 155                 160
Arg Ser Arg Ser Arg Thr Pro Phe Arg Leu Ser Glu Lys Asp Arg Met
                165                 170                 175
Glu Leu Leu Glu Ile Ala Lys Thr Asn Ala Ala Lys Ala Leu Gly Thr
            180                 185                 190
Thr Asn Ile Asp Leu Pro Ala Ser Leu Arg Thr Val Pro Ser Ala Lys
            195                 200                 205
Glu Thr Ser Arg Gly Ile Gly Val Ser Ser Asn Gly Ala Lys Pro Glu
    210                 215                 220
Leu Ser Glu Lys Val Thr Glu Asp Gly Thr Arg Asn Pro Asn Glu Lys
```

```
225                      230                  235                   240
Pro Thr Gln Gln Arg Ser Ile Ala Phe Ser Ser Asn Asn Ser Val Ala
                     245                  250                   255
Lys Pro Ile Gln Lys Ser Ala Lys Ala Ala Thr Glu Glu Ala Ser Ser
                260                  265                   270
Arg Ser Pro Lys Ile Asp Gln Lys Lys Ser Pro Tyr Gly Leu Trp Ile
            275                  280                   285
Pro Ile
    290
```

```
<210> 5487
<211> 1716
<212> DNA
<213> Homo sapiens
```

```
<400> 5487
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60
tgacagcagg agcgatggcc gggatcctgg agcactcggt catgtacccg gtggactcgg
120
tgaagagaca gggtcttgcc ttgtcgccta ggctggagtg cagtgttgag atcatagttt
180
actgcagcct cgaactcctg ggtacaagga atcctccctc ctcagcctcc tgagtagctg
240
ggattacaga cacgaatgca gagtttgagt ccagatccca aagcccagta cacaagtatc
300
tacggagccc tcaagaaaat catgcggacc gaaggcttct ggaggccctt gcgaggcgtc
360
aacgtcatga tcatgggtgc agggccagcc catgccatgt attttgcctg ctatgaaaac
420
atgaaaagga ctttaaatga cgttttccac caccaaggaa acagccacct agccaacggg
480
atagctggga gtatggccac cctgctccac gatgcggtaa tgaatccagc agaagtggtg
540
aagcagcgct tgcagatgta caactcgcag caccggtcag caatcagctg catccggacg
600
gtgtggagga ccgaggggtt gggggccttc taccggagct acaccacgca gctgaccatg
660
aacatcccct tccagtccat ccacttcatc acctatgagt tcctgcagga gcaggtcaac
720
ccccaccgga cctacaaccc gcagtcccac atcatctcag gcgggctggc cggggccctc
780
gccgcggccg ccacgacccc cctggacgtc tgtaagaccc ttctgaacac tcaggagaac
840
gtggccctct cgctggccaa catcagcggc cggctgtcgg gtatggccaa tgccttccgg
900
acggtgtacc agctcaacgg cctggccggc tacttcaaag catccaggc gcgtgtcatc
960
taccagatgc cctccaccgc catttcttgg tctgtctatg agttcttcaa gtactttctc
1020
accaagcgcc agctggaaaa tcgagctcca tactaaagga agggatcata gaatcttttc
1080
ttaaagtcat tctctgcctg catccagccc cttgccctct cctcacacgt agatcatttt
1140
```

```
tttttttttgc aggggtgctgc ctatgggccc tctgctcccc aatgccttag agagaggagg
1200
ggacgggacg gcacggccgc tcaccggaag gctgtgtgcg gggacatccg aggtggtggt
1260
ggacaggaag gacttgggaa ggggagcgag aaattgcttt ttctcttcct ccctgggcag
1320
aatgtagctt ttctgcttca ctgtggcagc ctcctccctg gatccttaga tcccagagga
1380
gggaagaaaa tttgcagtga ctgaaaacag taaaaaaaaa aaaatttatg tatataaaag
1440
ttgcattaca cagtacaaaa tagatggata atgtttatcc tttatttttc tatgtagaag
1500
tttttgaatt tgtgtgtgtg cttgtgcgtg tctacaccta gtattacggc tgggactctc
1560
cagctgtttt tgttgttgtt atgttttaa gagggttgaa ttcttccatc aggtgaacga
1620
aaaaggcaac aaagtaataa atcagtgaat gtggccggca gctgtgttta gcccctccag
1680
atggaagttt cacttgaatg taaaataata aagttt
1716


<210> 5488
<211> 272
<212> PRT
<213> Homo sapiens

<400> 5488
Leu Gly Leu Gln Thr Arg Met Gln Ser Leu Ser Pro Asp Pro Lys Ala
1               5                   10                  15
Gln Tyr Thr Ser Ile Tyr Gly Ala Leu Lys Lys Ile Met Arg Thr Glu
                20                  25                  30
Gly Phe Trp Arg Pro Leu Arg Gly Val Asn Val Met Ile Met Gly Ala
            35                  40                  45
Gly Pro Ala His Ala Met Tyr Phe Ala Cys Tyr Glu Asn Met Lys Arg
        50                  55                  60
Thr Leu Asn Asp Val Phe His His Gln Gly Asn Ser His Leu Ala Asn
65                  70                  75                  80
Gly Ile Ala Gly Ser Met Ala Thr Leu Leu His Asp Ala Val Met Asn
                85                  90                  95
Pro Ala Glu Val Val Lys Gln Arg Leu Gln Met Tyr Asn Ser Gln His
            100                 105                 110
Arg Ser Ala Ile Ser Cys Ile Arg Thr Val Trp Arg Thr Glu Gly Leu
        115                 120                 125
Gly Ala Phe Tyr Arg Ser Tyr Thr Thr Gln Leu Thr Met Asn Ile Pro
    130                 135                 140
Phe Gln Ser Ile His Phe Ile Thr Tyr Glu Phe Leu Gln Glu Gln Val
145                 150                 155                 160
Asn Pro His Arg Thr Tyr Asn Pro Gln Ser His Ile Ile Ser Gly Gly
                165                 170                 175
Leu Ala Gly Ala Leu Ala Ala Ala Ala Thr Thr Pro Leu Asp Val Cys
            180                 185                 190
Lys Thr Leu Leu Asn Thr Gln Glu Asn Val Ala Leu Ser Leu Ala Asn
        195                 200                 205
Ile Ser Gly Arg Leu Ser Gly Met Ala Asn Ala Phe Arg Thr Val Tyr
```

```
            210                    215                    220
Gln Leu Asn Gly Leu Ala Gly Tyr Phe Lys Gly Ile Gln Ala Arg Val
225                    230                    235                    240
Ile Tyr Gln Met Pro Ser Thr Ala Ile Ser Trp Ser Val Tyr Glu Phe
                245                    250                    255
Phe Lys Tyr Phe Leu Thr Lys Arg Gln Leu Glu Asn Arg Ala Pro Tyr
            260                    265                    270
```

<210> 5489
<211> 1600
<212> DNA
<213> Homo sapiens

<400> 5489
aaatttccgg ctcaactcag gcatctccag gtggtcatgg atttggtcca tgagcttctt
60
cagcaagtcc ccaaacggat cctggctgcg cctgtggcag aggttgtact gtttgcaagg
120
ctgttggctg tgctcctgca gctgggggca gcagttctgg ggtgacatga tgcaccacgt
180
gtccaaattg gcacagagct gcaggacgtg gttgatggcc catcgagtt tggaggccca
240
gagaatccaa aactggagat gctggaaaag atcctgcaaa ggcagttcag tagctctaac
300
agccctcggg gtatcatctt cacccgcacc cgccaaagcg cacactccct cctgctctgg
360
ctccagcagc agcagggcct gcagactgtg gacatccggg cccagctact gattggggct
420
gggaacagca gccagagcac ccacatgacc cagagggacc agcaagaagt gatccagaag
480
ttccaagatg gaacccctgaa ccttctggtg gccacgagtg tggcggagga ggggctggac
540
atcccacatt gcaatgtggt ggtgcgttat gggctcttga ccaatgaaat ctccatggtc
600
caggccaggg gccgtgcccg ggccgatcag agtgtatacg cgtttgtagc aactgaaggt
660
agccgggagc tgaagcggga gctgatcaac gaggcgctgg agacgctgat ggagcaggca
720
gtggctgctg tgcagaaaat ggaccaggcc gagtaccagg ccaagatccg ggatctgcag
780
caggcagcct tgaccaagcg ggcggcccag gcagcccagc gggagaacca gcggcagcag
840
ttcccagtgg agcacgtgca gctactctgc atcaactgca tggtggctgt gggccatggc
900
agcgacctgc ggaaggtgga gggcacccac catgtcaatg tgaaccccaa cttctcgaac
960
tactataatg tctccaggga tcctgtggtc atcaacaaag tcttcaagga ctggaagcct
1020
gggggtgtca tcagctgcag gaactgtggg gaggtctggg tctgcagat gatctacaag
1080
tcagtgaagc tgccagtgct caaagtccgc agcatgctgc tggagacccc tcaggggcgg
1140
atccaggcca aaaagtggtc ccgcgtgccc ttctccgtgc ctgactttga cttcctgcag
1200
```

cattgtgccg agaacttgtc ggacctctcc ctggactgac cacctcattg ctgcagtgcc
1260
cggtttgggc tgtaggggggc gggagagtct gcagcagact ccaggcccct ccttcctgaa
1320
tcatcagctg tgggcatcag gcccaccagc cacacaggag tcctgggcac cctggcttag
1380
gctcccgcaa tgggaaaaca accggagggc cagagcttag tccagaccta ccttgtacgc
1440
acatagacat tttcatatgc actggatgga gttagggaaa ctgaggcaaa agaatttgcc
1500
atactgtact cagaatcacg acattccttc cctaccaagg ccacttctat tttttgaggc
1560
tcctcataaa aataaatgaa aaaatgggat agaaaaaaaa
1600


<210> 5490
<211> 357
<212> PRT
<213> Homo sapiens


<400> 5490
His Asp Ala Pro Arg Val Gln Ile Gly Thr Glu Leu Gln Asp Val Val
1               5                   10                  15
Asp Gly Pro Ile Glu Phe Gly Gly Pro Glu Asn Pro Lys Leu Glu Met
                20                  25                  30
Leu Glu Lys Ile Leu Gln Arg Gln Phe Ser Ser Ser Asn Ser Pro Arg
        35                  40                  45
Gly Ile Ile Phe Thr Arg Thr Arg Gln Ser Ala His Ser Leu Leu Leu
    50                  55                  60
Trp Leu Gln Gln Gln Gln Gly Leu Gln Thr Val Asp Ile Arg Ala Gln
65                  70                  75                  80
Leu Leu Ile Gly Ala Gly Asn Ser Ser Gln Ser Thr His Met Thr Gln
                85                  90                  95
Arg Asp Gln Gln Glu Val Ile Gln Lys Phe Gln Asp Gly Thr Leu Asn
                100                 105                 110
Leu Leu Val Ala Thr Ser Val Ala Glu Glu Gly Leu Asp Ile Pro His
        115                 120                 125
Cys Asn Val Val Val Arg Tyr Gly Leu Leu Thr Asn Glu Ile Ser Met
    130                 135                 140
Val Gln Ala Arg Gly Arg Ala Arg Ala Asp Gln Ser Val Tyr Ala Phe
145                 150                 155                 160
Val Ala Thr Glu Gly Ser Arg Glu Leu Lys Arg Glu Leu Ile Asn Glu
                165                 170                 175
Ala Leu Glu Thr Leu Met Glu Gln Ala Val Ala Ala Val Gln Lys Met
                180                 185                 190
Asp Gln Ala Glu Tyr Gln Ala Lys Ile Arg Asp Leu Gln Gln Ala Ala
        195                 200                 205
Leu Thr Lys Arg Ala Ala Gln Ala Ala Gln Arg Glu Asn Gln Arg Gln
        210                 215                 220
Gln Phe Pro Val Glu His Val Gln Leu Leu Cys Ile Asn Cys Met Val
225                 230                 235                 240
Ala Val Gly His Gly Ser Asp Leu Arg Lys Val Glu Gly Thr His His
                245                 250                 255
Val Asn Val Asn Pro Asn Phe Ser Asn Tyr Tyr Asn Val Ser Arg Asp

4662

```
             260                  265                  270
Pro Val Val Ile Asn Lys Val Phe Lys Asp Trp Lys Pro Gly Gly Val
         275                  280                  285
Ile Ser Cys Arg Asn Cys Gly Glu Val Trp Gly Leu Gln Met Ile Tyr
         290                  295                  300
Lys Ser Val Lys Leu Pro Val Leu Lys Val Arg Ser Met Leu Leu Glu
305                  310                  315                  320
Thr Pro Gln Gly Arg Ile Gln Ala Lys Lys Trp Ser Arg Val Pro Phe
                 325                  330                  335
Ser Val Pro Asp Phe Asp Phe Leu Gln His Cys Ala Glu Asn Leu Ser
             340                  345                  350
Asp Leu Ser Leu Asp
         355
```

```
<210> 5491
<211> 5555
<212> DNA
<213> Homo sapiens
```

```
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atgaccatct tgcattcctt tctctggagg agaaagtcca tgagtcttcc tttgtctggt
5400

aagagattta ctatgggctc aagtttcact tggaggttcc agaggtaacc ttggcttgcg
5460

ctgataatga tgtcaggttg aaagacaatc caagatgaag aatagagttt acatggaaca
5520

ggagactggc tggtcacggc agcaggacct gtgatgggga tctgataggg ctggatcgat
5580

cgagcgggaa gcacggggtg gtggaaggta acggagccgt caaactctcc ccgtaacttg
5640

atatcgaata ttaccgatgt ctctgtatcc tgatgatgca cgactaccag gttgtccacc
5700

acgttcaggg caaactttcc cgtcctattt aacttcaata tgtgcatctt tttacaggca
5760
ccttctcgtg gtagatgata gaggaccacc tccgctcctg tgctgttgga ggtccgagaa
5820
tgatgcctca agaagagaac atacagctgc ccgtatatgg tagccattgc gatgtctctt
5880
tcggaaaggc tgggtttagt tgacttaggc gcagctggta attcaatctc aaatttgggc
5940
agcttcgaca tagtgccagc cctaaagtga aaaggctgca ggacattctc caggaccgtg
6000
gtagacagca agatcacggc gctctcgggg cagtacatgt accaattcac attgagattg
6060
tggctcttca agagtttcag actccgtttc tctggtaata cctggtaaaa ttcgattcct
6120
tgatctgtta tgaagacaat ttcagttgaa ctagtccagc agaatcctag aatgttggca
6180
ttcttagtct tgcactcctg tgtgtattcc agctgggaat tatcagggat aaaattacaa
6240
aaatccacag tctttgaggt cctctgaaca gccaatatct tattttctaa ggaaaactta
6300
atgcacttca cttctccttt gtcatccatt ctaaatgaga tgggattcct atcatctggg
6360
cctttaacta ccacgccagt agctccacca gatcgaacag caaaaacctg cttgttggcc
6420
tcatcgaaga agacgcagtt gacagggttc gccttctcga actgcaccgg ccgctcgcac
6480
agctccagat agtagtcctc ctcgcccatg gcgggcgccg cgcccgcggc ggggggccc
6538

<210> 5494
<211> 1278
<212> PRT
<213> Homo sapiens

<400> 5494
Met Thr Ala Arg Gly Leu Ala Leu Gly Leu Leu Leu Leu Leu Cys
1   5   10   15
Pro Ala Gln Val Phe Ser Gln Ser Cys Val Trp Tyr Gly Glu Cys Gly
            20   25   30
Ile Ala Tyr Gly Asp Lys Arg Tyr Asn Cys Glu Tyr Ser Gly Pro Pro
        35   40   45
Lys Pro Leu Pro Lys Asp Gly Tyr Asp Leu Val Gln Glu Leu Cys Pro
    50   55   60
Gly Phe Phe Phe Gly Asn Val Ser Leu Cys Cys Asp Val Arg Gln Leu
65   70   75   80
Gln Thr Leu Lys Asp Asn Leu Gln Leu Pro Leu Gln Phe Leu Ser Arg
                85   90   95
Cys Pro Ser Cys Phe Tyr Asn Leu Leu Asn Leu Phe Cys Glu Leu Thr
            100   105   110
Cys Ser Pro Arg Gln Ser Gln Phe Leu Asn Val Thr Ala Thr Glu Asp
        115   120   125
Tyr Val Asp Pro Val Thr Asn Gln Thr Lys Thr Asn Val Lys Glu Leu
    130   135   140
Gln Tyr Tyr Val Gly Gln Ser Phe Ala Asn Ala Met Tyr Asn Ala Cys

4672

```
         145                  150                  155                  160
Arg Asp Val Glu Ala Pro Ser Ser Asn Asp Lys Ala Leu Gly Leu Leu
                 165                  170                  175
Cys Gly Lys Asp Ala Asp Ala Cys Asn Ala Thr Asn Trp Ile Glu Tyr
             180                  185                  190
Met Phe Asn Lys Asp Asn Gly Gln Ala Pro Phe Thr Ile Thr Pro Val
         195                  200                  205
Phe Ser Asp Phe Pro Val His Gly Met Glu Pro Met Asn Asn Ala Thr
         210                  215                  220
Lys Gly Cys Asp Glu Ser Val Asp Glu Val Thr Ala Pro Cys Ser Cys
225                  230                  235                  240
Gln Asp Cys Ser Ile Val Cys Gly Pro Lys Pro Gln Pro Pro Pro Pro
                 245                  250                  255
Pro Ala Pro Trp Thr Ile Leu Gly Leu Asp Ala Met Tyr Val Ile Met
                 260                  265                  270
Trp Ile Thr Tyr Met Ala Phe Leu Leu Val Phe Phe Gly Ala Phe Phe
             275                  280                  285
Ala Val Trp Cys Tyr Arg Lys Arg Tyr Phe Val Ser Glu Tyr Thr Pro
             290                  295                  300
Ile Asp Ser Asn Ile Ala Phe Ser Val Asn Ala Ser Asp Lys Gly Glu
305                  310                  315                  320
Ala Ser Cys Cys Asp Pro Val Ser Ala Ala Phe Glu Gly Cys Leu Arg
                 325                  330                  335
Arg Leu Phe Thr Arg Trp Gly Ser Phe Cys Val Arg Asn Pro Gly Cys
             340                  345                  350
Val Ile Phe Phe Ser Leu Val Phe Ile Thr Ala Cys Ser Ser Gly Leu
             355                  360                  365
Val Phe Val Arg Val Thr Thr Asn Pro Val Asp Leu Trp Ser Ala Pro
         370                  375                  380
Ser Ser Gln Ala Arg Leu Glu Lys Glu Tyr Phe Asp Gln His Phe Gly
385                  390                  395                  400
Pro Phe Phe Arg Thr Glu Gln Leu Ile Ile Arg Ala Pro Leu Thr Asp
                 405                  410                  415
Lys His Ile Tyr Gln Pro Tyr Pro Ser Gly Ala Asp Val Pro Phe Gly
             420                  425                  430
Pro Pro Leu Asp Ile Gln Ile Leu His Gln Val Leu Asp Leu Gln Ile
             435                  440                  445
Ala Ile Glu Asn Ile Thr Ala Ser Tyr Asp Asn Glu Thr Val Thr Leu
         450                  455                  460
Gln Asp Ile Cys Leu Ala Pro Leu Ser Pro Tyr Asn Thr Asn Cys Thr
465                  470                  475                  480
Ile Leu Ser Val Leu Asn Tyr Phe Gln Asn Ser His Ser Val Leu Asp
                 485                  490                  495
His Lys Lys Gly Asp Asp Phe Phe Val Tyr Ala Asp Tyr His Thr His
             500                  505                  510
Phe Leu Tyr Cys Val Arg Ala Pro Ala Ser Leu Asn Asp Thr Ser Leu
         515                  520                  525
Leu His Asp Pro Cys Leu Gly Thr Phe Gly Gly Pro Val Phe Pro Trp
         530                  535                  540
Leu Val Leu Gly Gly Tyr Asp Asp Gln Asn Tyr Asn Asn Ala Thr Ala
545                  550                  555                  560
Leu Val Ile Thr Phe Pro Val Asn Asn Tyr Tyr Asn Asp Thr Glu Lys
                 565                  570                  575
Leu Gln Arg Ala Gln Ala Trp Glu Lys Glu Phe Ile Asn Phe Val Lys
```

```
                 580                    585                    590
Asn Tyr Lys Asn Pro Asn Leu Thr Ile Ser Phe Thr Ala Glu Arg Ser
             595                    600                    605
Ile Glu Asp Glu Leu Asn Arg Glu Ser Asp Ser Asp Val Phe Thr Val
     610                    615                    620
Val Ile Ser Tyr Ala Ile Met Phe Leu Tyr Ile Ser Leu Ala Leu Gly
625                    630                    635                    640
His Ile Lys Ser Cys Arg Arg Leu Leu Val Asp Ser Lys Val Ser Leu
                 645                    650                    655
Gly Ile Ala Gly Ile Leu Ile Val Leu Ser Ser Val Ala Cys Ser Leu
             660                    665                    670
Gly Val Phe Ser Tyr Ile Gly Leu Pro Leu Thr Leu Ile Val Ile Glu
             675                    680                    685
Val Ile Pro Phe Leu Val Leu Ala Val Gly Val Asp Asn Ile Phe Ile
     690                    695                    700
Leu Val Gln Ala Tyr Gln Arg Asp Glu Arg Leu Gln Gly Glu Thr Leu
705                    710                    715                    720
Asp Gln Gln Leu Gly Arg Val Leu Gly Glu Val Ala Pro Ser Met Phe
                 725                    730                    735
Leu Ser Ser Phe Ser Glu Thr Val Ala Phe Phe Leu Gly Ala Leu Ser
             740                    745                    750
Val Met Pro Ala Val His Thr Phe Ser Leu Phe Ala Gly Leu Ala Val
             755                    760                    765
Phe Ile Asp Phe Leu Leu Gln Ile Thr Cys Phe Val Ser Leu Leu Gly
     770                    775                    780
Leu Asp Ile Lys Arg Gln Glu Lys Asn Arg Leu Asp Ile Phe Cys Cys
785                    790                    795                    800
Val Arg Gly Ala Glu Asp Gly Thr Ser Val Gln Ala Ser Glu Ser Cys
                 805                    810                    815
Leu Phe Arg Phe Phe Lys Asn Ser Tyr Ser Pro Leu Leu Leu Lys Asp
             820                    825                    830
Trp Met Arg Pro Ile Val Ile Ala Ile Phe Val Gly Val Leu Ser Phe
             835                    840                    845
Ser Ile Ala Val Leu Asn Lys Val Asp Ile Gly Leu Asp Gln Ser Leu
     850                    855                    860
Ser Met Pro Asp Asp Ser Tyr Met Val Asp Tyr Phe Lys Ser Ile Ser
865                    870                    875                    880
Gln Tyr Leu His Ala Gly Pro Pro Val Tyr Phe Val Leu Glu Glu Gly
                 885                    890                    895
His Asp Tyr Thr Ser Ser Lys Gly Gln Asn Met Val Cys Gly Gly Met
             900                    905                    910
Gly Cys Asn Asn Asp Ser Leu Val Gln Gln Ile Phe Asn Ala Ala Gln
             915                    920                    925
Leu Asp Asn Tyr Thr Arg Ile Gly Phe Ala Pro Ser Ser Trp Ile Asp
     930                    935                    940
Asp Tyr Phe Asp Trp Val Lys Pro Gln Ser Ser Cys Cys Arg Val Asp
945                    950                    955                    960
Asn Ile Thr Asp Gln Phe Cys Asn Ala Ser Val Val Asp Pro Ala Cys
                 965                    970                    975
Val Arg Cys Arg Pro Leu Thr Pro Gly Gly Lys Gln Arg Pro Gln Gly
             980                    985                    990
Gly Asp Phe Met Arg Phe Leu Pro Met Phe Leu Ser Asp Asn Pro Asn
     995                    1000                   1005
Pro Lys Cys Gly Lys Gly Gly His Ala Ala Tyr Ser Ser Ala Val Asn
```

```
        1010                    1015                    1020
Ile Leu Leu Gly His Gly Thr Arg Val Gly Ala Thr Tyr Phe Met Thr
1025                    1030                    1035                    1040
Tyr His Thr Val Leu Gln Thr Ser Ala Asp Phe Ile Asp Ala Leu Lys
                1045                    1050                    1055
Lys Ala Arg Leu Ile Ala Ser Asn Val Thr Glu Thr Met Gly Ile Asn
            1060                    1065                    1070
Gly Ser Ala Tyr Arg Val Phe Pro Tyr Ser Val Phe Tyr Val Phe Tyr
        1075                    1080                    1085
Glu Gln Tyr Leu Thr Ile Ile Asp Asp Thr Ile Phe Asn Leu Gly Val
    1090                    1095                    1100
Ser Leu Gly Ala Ile Phe Leu Val Thr Met Val Leu Leu Gly Cys Glu
1105                    1110                    1115                    1120
Leu Trp Ser Ala Val Ile Met Cys Ala Thr Ile Ala Met Val Leu Val
                1125                    1130                    1135
Asn Met Phe Gly Val Met Trp Leu Trp Gly Ile Ser Leu Asn Ala Val
            1140                    1145                    1150
Ser Leu Val Asn Leu Val Met Ser Cys Gly Ile Ser Val Glu Phe Cys
        1155                    1160                    1165
Ser His Ile Thr Arg Ala Phe Thr Val Ser Met Lys Gly Ser Arg Val
    1170                    1175                    1180
Glu Arg Ala Glu Glu Ala Leu Ala His Met Gly Ser Ser Val Phe Ser
1185                    1190                    1195                    1200
Gly Ile Thr Leu Thr Lys Phe Gly Gly Ile Val Val Leu Ala Phe Ala
                1205                    1210                    1215
Lys Ser Gln Ile Phe Gln Ile Phe Tyr Phe Arg Met Tyr Leu Ala Met
                1220                    1225                    1230
Val Leu Leu Gly Ala Thr His Gly Leu Ile Phe Leu Pro Val Leu Leu
            1235                    1240                    1245
Ser Tyr Ile Gly Pro Ser Val Asn Lys Ala Lys Ser Cys Ala Thr Glu
    1250                    1255                    1260
Glu Arg Tyr Lys Gly Thr Glu Arg Glu Arg Leu Leu Asn Phe
1265                    1270                    1275
```

<210> 5495
<211> 2414
<212> DNA
<213> Homo sapiens

<400> 5495
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60
tagagtcgct gcccaccgat cccctgctcc tcatcttatc ctttttggac tatcgggatc
120
taatcaactg ttgttatgtc agtcgaagac ttagccagct atcaagtcat gatccgctgt
180
ggagaagaca ttgcaaaaaa tactggctga tatctgagga agagaaaaca cagaagaatc
240
agtgttggaa atctctcttc atagatactt actctgatgt aggaagatac attgaccatt
300
atgctgctat taaaaaggcc tgggatgatc tcaagaaata tttggagccc aggtgtcctc
360
ggatggtttt atctctgaaa gagggtgctc gagaggaaga cctcgatgct gtggaagcgc
420

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agattgggct gcaagtttcc tggacgatta tcgatgttca taccgaattc acaatggaca
480
gaagttagtt ggttcctggg gttattggga agcatggcac tgtctaatca ctatcgttct
540
gaagatttgt tagacgtcga tacagctgcc ggaggattcc agcagagaca gggactgaaa
600
tactgtctcc ctttaacttt ttgcatacat actggtttga gtcagtacat agcagtggaa
660
gctgcagagg gccgaaacaa aaatgaagtt ttctaccaat gtccagacca aatggctcga
720
aatccagctg ctattgacat gtttattata ggtgctactt ttactgactg gtttacctct
780
tatgtcaaaa atgttgtatc aggtggcttc cccatcatca gagaccaaat tttcagatat
840
gttcacgatc cagaatgtgt agcaacaact ggggatatta ctgtgtcagt ttccacatcg
900
tttctgccag aacttagctc tgtacatcca ccccactatt tcttcacata ccgaatcagg
960
attgaaatgt caaaagatgc acttcctgag aaggcctgtc agttggacag tcgctattgg
1020
agaataacaa atgctaaggg tgacgtggaa gaagttcaag gacctggagt agttggtgaa
1080
tttccaatca tcagcccagg tcgggtatat gaatacacaa gctgtaccac attctctaca
1140
acatcaggat acatggaagg gtattatacc ttccattttc tttactttaa agacaagatc
1200
tttaatgttg ccattccccg attccatatg gcatgtccaa cattcagggt gtctatagcc
1260
cgattggaaa tgggtcctga tgaatatgaa gagatggaag aagaggagga ggaggaagag
1320
gaggaagacg aggatgatga ttcagcagat atggatgaat cagatgaaga tgatgaagag
1380
gagagacgga ggagagtctt tgatgttccc attcgcagac gccgctgctc acgccttttt
1440
tagcaagcct tctgctgatg gaagcactag gatgattcta ggctgttaaa tagatttctc
1500
aataatgtaa ataactaaat tgttctctgc atatagcagg aaaactagca tgaaatattg
1560
tttcaggccc tgggttctat gtgacactac attaggaatt ggaͭtgtttg ggtttgcttt
1620
gtgtttttga ggtagaggaa gaaatgggaa tcttttttttt ctcttccagg agtcagtgga
1680
agaatagttc tctagctaag gaacggacat acctttgttt taaaatattt tatacttaca
1740
aaaatctaga aatggagagg gaactgtttt gaataaggat ttaaaatacc tgcacaagga
1800
tagagagaaa ctatgtgact cattctgtga aaagacttct tgcagttgtg agttatttag
1860
aaatgatcaa aatttgtaat taggctaatc catttagtga ttcctaatat tttgtactca
1920
cagagaacta attgactaaa caacttgaac gctagtggtt tgtccttaga caatctgtct
1980
ttgaatttaa agtctttatc gctaagacct tgactttaaa tttttcatca ctacaacctt
2040
```

```
gaatttaatt tcaggtcttc aacatgatga ccttggattt aatttaaagt cttcaacact
2100
atgcgcttta tcatattatt cacagatgca tttttgaaat gtagtatgta aaagtatgta
2160
acgtgctgtt tattaacaaa agattgttca caacatctca tgtagtttaa atttgtaaat
2220
actgcttctg ttttgtttct cctttataca cttgactgtc tttgtgataa gtgacatgaa
2280
ttttatgtta ggattaagta tgttttcctg aaacttggat ttttttttgta attatataat
2340
tgagagttaa gaatgaaatc cttcaagtgt taaaaactca cattttaaaa gcaaattttg
2400
gttccaaaaa aaaa
2414


<210> 5496
<211> 345
<212> PRT
<213> Homo sapiens


<400> 5496
Met Leu Trp Lys Arg Arg Leu Gly Cys Lys Phe Pro Gly Arg Leu Ser
 1               5                  10                  15
Met Phe Ile Pro Asn Ser Gln Trp Thr Glu Val Ser Trp Phe Leu Gly
            20                  25                  30
Leu Leu Gly Ser Met Ala Leu Ser Asn His Tyr Arg Ser Glu Asp Leu
        35                  40                  45
Leu Asp Val Asp Thr Ala Ala Gly Gly Phe Gln Gln Arg Gln Gly Leu
    50                  55                  60
Lys Tyr Cys Leu Pro Leu Thr Phe Cys Ile His Thr Gly Leu Ser Gln
65                  70                  75                  80
Tyr Ile Ala Val Glu Ala Ala Glu Gly Arg Asn Lys Asn Glu Val Phe
                85                  90                  95
Tyr Gln Cys Pro Asp Gln Met Ala Arg Asn Pro Ala Ala Ile Asp Met
            100                 105                 110
Phe Ile Ile Gly Ala Thr Phe Thr Asp Trp Phe Thr Ser Tyr Val Lys
        115                 120                 125
Asn Val Val Ser Gly Gly Phe Pro Ile Ile Arg Asp Gln Ile Phe Arg
    130                 135                 140
Tyr Val His Asp Pro Glu Cys Val Ala Thr Thr Gly Asp Ile Thr Val
145                 150                 155                 160
Ser Val Ser Thr Ser Phe Leu Pro Glu Leu Ser Ser Val His Pro Pro
                165                 170                 175
His Tyr Phe Phe Thr Tyr Arg Ile Arg Ile Glu Met Ser Lys Asp Ala
                180                 185                 190
Leu Pro Glu Lys Ala Cys Gln Leu Asp Ser Arg Tyr Trp Arg Ile Thr
        195                 200                 205
Asn Ala Lys Gly Asp Val Glu Glu Val Gln Gly Pro Gly Val Val Gly
    210                 215                 220
Glu Phe Pro Ile Ile Ser Pro Gly Arg Val Tyr Glu Tyr Thr Ser Cys
225                 230                 235                 240
Thr Thr Phe Ser Thr Thr Ser Gly Tyr Met Glu Gly Tyr Tyr Thr Phe
                245                 250                 255
His Phe Leu Tyr Phe Lys Asp Lys Ile Phe Asn Val Ala Ile Pro Arg
```

```
            260                      265                      270
Phe His Met Ala Cys Pro Thr Phe Arg Val Ser Ile Ala Arg Leu Glu
        275                      280                      285
Met Gly Pro Asp Glu Tyr Glu Glu Met Glu Glu Glu Glu Glu Glu Glu
        290                      295                      300
Glu Glu Glu Asp Glu Asp Asp Asp Ser Ala Asp Met Asp Glu Ser Asp
305                      310                      315                      320
Glu Asp Asp Glu Glu Glu Arg Arg Arg Arg Val Phe Asp Val Pro Ile
                325                      330                      335
Arg Arg Arg Arg Cys Ser Arg Leu Phe
                340                      345
```

<210> 5497
<211> 1056
<212> DNA
<213> Homo sapiens

<400> 5497
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cacgaggaag aatgtggaag gatctcccat tggccggttg gggcaaaagc ctgaggcaat
60
ctttcatccc cttttgccaa ggcgagactt tcccagtgac ggtgatgtag ttggccactc
120
tgactatggg tggactcggg tgtagacctc tgaagctgag atcacacgaa aacctggcct
180
ccccgccatg tagctgttgg agagtagaaa aatagagcac gcctgatgtt tctaaatgag
240
aagactttca atagtaatga agaatccatg gcactctcct caccctcaaa cacatggcag
300
tcattcacat acaggcccca aagtcactgt tagtgctgca gtggctcctg tggacattgg
360
aaagcccgga gagggcgtgg aagaaatcag ctggcccccg gcaggttctc tggggttttg
420
tgcccaaggc tcctggagcc ctaaaaactt tcaaaagtta actccccacg tccccatcct
480
gcttgggttt ctggactttt ctgaggcacc ggcagagggg tctcgttgct cccttgagtg
540
taggggcagc cctttaacct ggctccttga gtccctgctt tttctgcttc tgttgccttc
600
ttcctcgtct tcctctctct caatatctcc ctctctttgt ccctccccag ttcctgacct
660
ggccatcccg gggtgccctt gaccagcccc gtgtctcctc agggtgtccc agcaccagcc
720
tggcacagag tggggctcag ttagagtatg tgggatgttg gtttcgccag gtgagtgaat
780
gaaaggactc gaccaccaca gctgagccac tagctgggcc atgcgaagag ttctaggtgc
840
aaaggctgga gggtggaatt catttttgag aggtgtgtga gcagcttccg acccctgccc
900
catttgaacg ggggccttgc tggtcgcgtc cctgcattca cccgcgcggc catcccgtca
960
tccaacagtt gatcctaact gagcacgccc acggccctgg tctggcctgg caccggcga
1020
ccgtagccca tcccttgatg gcctctgtgt ccccag
1056
```

```
<210> 5498
<211> 150
<212> PRT
<213> Homo sapiens

<400> 5498
Met Gly Gln Gly Ser Glu Ala Ala His Thr Pro Leu Lys Asn Glu Phe
1               5                   10                  15
His Pro Pro Ala Phe Ala Pro Arg Thr Leu Arg Met Ala Gln Leu Val
            20                  25                  30
Ala Gln Leu Trp Trp Ser Ser Pro Phe Ile His Ser Pro Gly Glu Thr
        35                  40                  45
Asn Ile Pro His Thr Leu Thr Glu Pro His Ser Val Pro Gly Trp Cys
    50                  55                  60
Trp Asp Thr Leu Arg Arg His Gly Ala Gly Gln Gly His Pro Gly Met
65                  70                  75                  80
Ala Arg Ser Gly Thr Gly Glu Gly Gln Arg Glu Gly Asp Ile Glu Arg
                85                  90                  95
Glu Glu Asp Glu Glu Glu Gly Asn Arg Ser Arg Lys Ser Arg Asp Ser
            100                 105                 110
Arg Ser Gln Val Lys Gly Leu Pro Leu His Ser Arg Glu Gln Arg Asp
        115                 120                 125
Pro Ser Ala Gly Ala Ser Glu Lys Ser Arg Asn Pro Ser Arg Met Gly
    130                 135                 140
Thr Trp Gly Val Asn Phe
145                 150


<210> 5499
<211> 1918
<212> DNA
<213> Homo sapiens

<400> 5499
ngctagccct gtatctgtct gagcagtgga atgtgccagg aaagaaggag caaccactga
60
ctgatgaacc tttgccagtc tcccttccaa gagggatgcc agagccttct gtctttgggc
120
tgcctctgcc cttcgtagat tctctgctgg gcctttggaa ctaacacagc aacttccagg
180
gtctcatgtt gaagacttta tggagcatcc tggccagaac aagccaagga gccaagacga
240
gagggacaca cggacaaaca acagacagaa gacgtactgg ccgctggact ccgctgcctc
300
ccccatctcc ccgccatctg cgcccggagg atgagcccag ccttcagggc catggatgtg
360
gagccccgcg ccaaaggcgt ccttctggag ccctttgtcc accaggtcgg ggggcactca
420
tgcgtgctcc gcttcaatga caacccctg tgcaagcccc tggtcccaag ggaacatcag
480
ttctacgaga ccctccctgc tgagatgcgc aaattcactc cccagtacaa aggtgtggta
540
tctgtgcgct ttgaagaaga tgaagacagg aacttgtgtc taatagcata tccattgaaa
600
```

```
ggggaccatg gaattgtgga cattgcacat aattcagact gtgaaccaaa aagtaagctc
660
ctaaggtgga caacaaacaa aaaacatcat gtcttagaaa cagaaaagac ccctaaggac
720
tgggtgcgtc agcaccgtaa agaggagaaa atgaagagcc ataagttaga agaagaattt
780
gagtggctaa agaaatctga agtcttgtac tacactgtag agaagaaggg gaatataagt
840
tcccagctta aacactataa cccttggagc atgaaatgtc accagcaaca gttacagaga
900
atgaaggaga atgcaaagca tcggaaccag tacaaattta tcttactgga aaacctgact
960
tcccgctatg aggtgccttg tgtccttgac ctcaagatgg gcacgacga acatggtgat
1020
gatgcttcag aggagaaggc agccaaccag atccgaaaat gtcagcagag cacatctgca
1080
gtcattggtg tgnctgtgtg tggcatgcag gtgtaccaag caggcagtgg gcagctcatg
1140
ttcatgaaca agtaccatgg acggaagcta tcggtgcagg cttcaagga ggcactttc
1200
cagttcttcc acaatgggcg gtacctgcgc cgtgaactcc tgggccctgt gctcaagaag
1260
ctgactgagc tcaaggcagt gttggagcga caggagtcct accgcttcta ctcaagctcc
1320
ctgctggtca tttatgatgg caaggagcgg cccgaagtgg tcctggactc agatgctgag
1380
gatttggagg acctgtcaga ggaatcagct gatgagtctg ctggtgccta tgcctacaaa
1440
cccatcggcg ccagctctgt agatgtgcgc atgatcgact ttgcacacac cacctgcagg
1500
ctgtatggcg aggacaccgt ggtgcatgag ggccaggatg ctggctatat cttcgggctc
1560
cagagcctga tagacattgt cacagagata agtgaggaga gtggggagtg agcttgctag
1620
ctgctccagt acttgagagc gactctgtgt cccaggcaca gctgtgctgc gtcagggagg
1680
aagccagtat ggccaggtgg tggctcctgc agcctggagc tgatgtgcag tggcctctgt
1740
gagccccagc ctgagccagt cccagctgtg cttggagtct ttatttattt taactatttc
1800
ttcaacattc cacatttgat gatgatacct ctttcttccc tgagtgtata tgttctaata
1860
caaatctttt tgtttattgt aaaaaaaaaa aaaaaaaaaa aaagaaaaac tcgaaaag
1918
```

```
<210> 5500
<211> 426
<212> PRT
<213> Homo sapiens

<400> 5500
Met Ser Pro Ala Phe Arg Ala Met Asp Val Glu Pro Arg Ala Lys Gly
 1               5                   10                  15
Val Leu Leu Glu Pro Phe Val His Gln Val Gly Gly His Ser Cys Val
```

```
                    20                    25                    30
Leu Arg Phe Asn Glu Thr Thr Leu Cys Lys Pro Leu Val Pro Arg Glu
        35                    40                    45
His Gln Phe Tyr Glu Thr Leu Pro Ala Glu Met Arg Lys Phe Thr Pro
    50                    55                    60
Gln Tyr Lys Gly Val Val Ser Val Arg Phe Glu Glu Asp Glu Asp Arg
65                    70                    75                    80
Asn Leu Cys Leu Ile Ala Tyr Pro Leu Lys Gly Asp His Gly Ile Val
                85                    90                    95
Asp Ile Ala His Asn Ser Asp Cys Glu Pro Lys Ser Lys Leu Leu Arg
            100                   105                   110
Trp Thr Thr Asn Lys Lys His His Val Leu Glu Thr Glu Lys Thr Pro
        115                   120                   125
Lys Asp Trp Val Arg Gln His Arg Lys Glu Glu Lys Met Lys Ser His
    130                   135                   140
Lys Leu Glu Glu Glu Phe Glu Trp Leu Lys Lys Ser Glu Val Leu Tyr
145                   150                   155                   160
Tyr Thr Val Glu Lys Lys Gly Asn Ile Ser Ser Gln Leu Lys His Tyr
                165                   170                   175
Asn Pro Trp Ser Met Lys Cys His Gln Gln Gln Leu Gln Arg Met Lys
            180                   185                   190
Glu Asn Ala Lys His Arg Asn Gln Tyr Lys Phe Ile Leu Leu Glu Asn
        195                   200                   205
Leu Thr Ser Arg Tyr Glu Val Pro Cys Val Leu Asp Leu Lys Met Gly
    210                   215                   220
Thr Arg Gln His Gly Asp Asp Ala Ser Glu Glu Lys Ala Ala Asn Gln
225                   230                   235                   240
Ile Arg Lys Cys Gln Gln Ser Thr Ser Ala Val Ile Gly Val Xaa Val
                245                   250                   255
Cys Gly Met Gln Val Tyr Gln Ala Gly Ser Gly Gln Leu Met Phe Met
            260                   265                   270
Asn Lys Tyr His Gly Arg Lys Leu Ser Val Gln Gly Phe Lys Glu Ala
        275                   280                   285
Leu Phe Gln Phe Phe His Asn Gly Arg Tyr Leu Arg Arg Glu Leu Leu
    290                   295                   300
Gly Pro Val Leu Lys Lys Leu Thr Glu Leu Lys Ala Val Leu Glu Arg
305                   310                   315                   320
Gln Glu Ser Tyr Arg Phe Tyr Ser Ser Ser Leu Leu Val Ile Tyr Asp
                325                   330                   335
Gly Lys Glu Arg Pro Glu Val Val Leu Asp Ser Asp Ala Glu Asp Leu
            340                   345                   350
Glu Asp Leu Ser Glu Glu Ser Ala Asp Glu Ser Ala Gly Ala Tyr Ala
        355                   360                   365
Tyr Lys Pro Ile Gly Ala Ser Ser Val Asp Val Arg Met Ile Asp Phe
    370                   375                   380
Ala His Thr Thr Cys Arg Leu Tyr Gly Glu Asp Thr Val Val His Glu
385                   390                   395                   400
Gly Gln Asp Ala Gly Tyr Ile Phe Gly Leu Gln Ser Leu Ile Asp Ile
                405                   410                   415
Val Thr Glu Ile Ser Glu Glu Ser Gly Glu
            420                   425
```

<210> 5501
<211> 568

<212> DNA
<213> Homo sapiens

<400> 5501
attcggcacg aggtgagtcg gtggcaggaa cgtgggctct agactgtgca ttcaggctct
60
cctacttggc agaatgatct tggggaaacg acttcatctg aacttcagat atttcacatg
120
tgaagcgggg acaaaaccat gcagctcaga ggtccctgtg ggggctgggg gagctgccct
180
gcaggtcttg gcacatgcac agcaggctcc ccatagcttt gtcaccacaa agggcactgt
240
tctattcaca gcacctcctg cttctgcctg gcaactgtgt ctccctgtgc tatatttaat
300
tccaccagca aagctggcga ggcagggccc agccctgaag gagatctcct tgcctgaccc
360
ctggacctgg aaatggaggc ttcatgtgcc cgccttggcg gcttaagcct gctgctttgg
420
cagtgccatg ggtgagccga gcagctgtga ggtgggtggg gcagggctgt agcccacgcc
480
gggtgctatt ccaggctcta ggggctggtg ctcatcccca cccccagcga cttccgtcct
540
acctggcatg ctgcagccct ctgccggc
568

<210> 5502
<211> 110
<212> PRT
<213> Homo sapiens

<400> 5502
Met Ile Leu Gly Lys Arg Leu His Leu Asn Phe Arg Tyr Phe Thr Cys
1   5   10   15
Glu Ala Gly Thr Lys Pro Cys Ser Ser Glu Val Pro Val Gly Ala Gly
                20   25   30
Gly Ala Ala Leu Gln Val Leu Ala His Ala Gln Gln Ala Pro His Ser
            35   40   45
Phe Val Thr Thr Lys Gly Thr Val Leu Phe Thr Ala Pro Pro Ala Ser
    50   55   60
Ala Trp Gln Leu Cys Leu Pro Val Leu Tyr Leu Ile Pro Pro Ala Lys
65   70   75   80
Leu Ala Arg Gln Gly Pro Ala Leu Lys Glu Ile Ser Leu Pro Asp Pro
                85   90   95
Trp Thr Trp Lys Trp Arg Leu His Val Pro Ala Leu Ala Ala
            100   105   110

<210> 5503
<211> 1679
<212> DNA
<213> Homo sapiens

<400> 5503
tgtctgggaa aagggaactc acaaggggtg agtacccca aattaggaga taccatgagc
60

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taacgccgtc tcagaattgc ataaatttgt ctacattttt caaagaagtt gggttatctg
120
atttaatcct cacaatagtc aagctaggaa ggtaagtgtg gaattattac cccatttgat
180
aggtagacaa attaaagctt aagatcaaac cgtttgcaaa gcaggaagca gcacttcctc
240
ttggtccagt tcttccttct ccctggtgct aaggtcagtg gatgttggct ccccacaggc
300
cagaaagctg gagagaagcc cctggctgca ggacccgggg aggaggaact gctccggggc
360
tcagcccctc atgctcagga cactcagagt gaggaactgc caccctcctg caccatctca
420
ggagagaaga agccgccagc agtctctgga gaagccaccg gggctgatgc tgggagactg
480
tgcccgcccc cccgctccag ggctccccac aaagacagaa ctctagcccg ctccaggccc
540
cagactcagg gggaagattg ttccctccca gtgggagagg tgaagatagg aaagaggtcc
600
tattctccag cccccgggaa gcagaaaaag cctaatgcca tgggtctggc cccaacatca
660
tctccgggtg cccctaactc agcccgtgcc acacacaacc cagtgccctg tgggtcaggc
720
cggggccct gccacctggc caatctcctc agtacattgg cgcagagcaa ccaaaacaga
780
gaccacaagc aggggcccc ggaagtgacc tgccaaatta ggaaaaagac acgaaccctc
840
taccgctcag atcagctgga ggagctagag aagatattcc aagaagacca ctatcctgac
900
agtgataaac gccgagagat tgcccagacg gtgggggtga ccccccagcg catcatggta
960
aaggggccg gctcactggt ggcagggtgg agtggcggag ggccaccat tgaaacactc
1020
gaattgcaga gtgagcgctc agcggtagcc tgggtgtggt tccagaatcg ccgggccaag
1080
tggcgaaaaa tggagaaact gaatgggaaa gaaagcaagg acaatcctgc agccctggc
1140
cctgccagca gtcaatgcag ctctgcagct gagatcctac ctgctgtgcc catggagcca
1200
aagcctgacc ctttccctca ggagtcccct ctggatacct tccagagcc ccccatgctg
1260
ctgacttctg accagacttt ggcccccacc caacccagtg agggtgctca gagggtggtg
1320
acccccccac tcttcagccc cccacctgtg cgaagggccg atcttccttt cccccttggc
1380
cctgtccaca ccccccaact gatgccactg ctgatggatg ttgctggcag tgacagcagc
1440
cacaaggacg gccctgtgg gtcctgggg acaaggtaag gaacctacgg gggtaggtca
1500
ctctagttat ctgggtgggg gtagggggt gtagatggag agaagataga cacagagagg
1560
agagggttaa ctgagaggag cacagagtgg tacaggagat ggggatgaaa gggataaggg
1620
gatctgggga atgacctagg ggatcacagc aatagagcag aaacaagggt aagatgcta
1679
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```
<210> 5504
<211> 392
<212> PRT
<213> Homo sapiens

<400> 5504
Gln Lys Ala Gly Glu Lys Pro Leu Ala Ala Gly Pro Gly Glu Glu Glu
1               5                   10                  15
Leu Leu Arg Gly Ser Ala Pro His Ala Gln Asp Thr Gln Ser Glu Glu
            20                  25                  30
Leu Pro Pro Ser Cys Thr Ile Ser Gly Glu Lys Lys Pro Pro Ala Val
        35                  40                  45
Ser Gly Glu Ala Thr Gly Ala Asp Ala Gly Arg Leu Cys Pro Pro Pro
    50                  55                  60
Arg Ser Arg Ala Pro His Lys Asp Arg Thr Leu Ala Arg Ser Arg Pro
65                  70                  75                  80
Gln Thr Gln Gly Glu Asp Cys Ser Leu Pro Val Gly Glu Val Lys Ile
                85                  90                  95
Gly Lys Arg Ser Tyr Ser Pro Ala Pro Gly Lys Gln Lys Lys Pro Asn
            100                 105                 110
Ala Met Gly Leu Ala Pro Thr Ser Ser Pro Gly Ala Pro Asn Ser Ala
        115                 120                 125
Arg Ala Thr His Asn Pro Val Pro Cys Gly Ser Gly Arg Gly Pro Cys
    130                 135                 140
His Leu Ala Asn Leu Leu Ser Thr Leu Ala Gln Ser Asn Gln Asn Arg
145                 150                 155                 160
Asp His Lys Gln Gly Pro Pro Glu Val Thr Cys Gln Ile Arg Lys Lys
                165                 170                 175
Thr Arg Thr Leu Tyr Arg Ser Asp Gln Leu Glu Glu Leu Glu Lys Ile
            180                 185                 190
Phe Gln Glu Asp His Tyr Pro Asp Ser Asp Lys Arg Arg Glu Ile Ala
        195                 200                 205
Gln Thr Val Gly Val Thr Pro Gln Arg Ile Met Val Lys Gly Ala Gly
    210                 215                 220
Ser Leu Val Ala Gly Trp Ser Gly Gly Gly Pro Thr Ile Glu Thr Leu
225                 230                 235                 240
Glu Leu Gln Ser Glu Arg Ser Ala Val Ala Trp Val Trp Phe Gln Asn
                245                 250                 255
Arg Arg Ala Lys Trp Arg Lys Met Glu Lys Leu Asn Gly Lys Glu Ser
                260                 265                 270
Lys Asp Asn Pro Ala Ala Pro Gly Pro Ala Ser Ser Gln Cys Ser Ser
            275                 280                 285
Ala Ala Glu Ile Leu Pro Ala Val Pro Met Glu Pro Lys Pro Asp Pro
    290                 295                 300
Phe Pro Gln Glu Ser Pro Leu Asp Thr Phe Pro Glu Pro Pro Met Leu
305                 310                 315                 320
Leu Thr Ser Asp Gln Thr Leu Ala Pro Thr Gln Pro Ser Glu Gly Ala
                325                 330                 335
Gln Arg Val Val Thr Pro Pro Leu Phe Ser Pro Pro Pro Val Arg Arg
            340                 345                 350
Ala Asp Leu Pro Phe Pro Leu Gly Pro Val His Thr Pro Gln Leu Met
    355                 360                 365
Pro Leu Leu Met Asp Val Ala Gly Ser Asp Ser Ser His Lys Asp Gly
```

```
    370                    375                    380
Pro Cys Gly Ser Trp Gly Thr Arg
385                    390


<210> 5505
<211> 1099
<212> DNA
<213> Homo sapiens


<400> 5505
aagcttgggc ggcccagcgg atcgtgccgc ggcggccgag cgcagctaca ggagggtgtc
60
cagaagccac aagccatggc tgtggggaac atcaacgagc tgcccgagaa catcctgctg
120
gagctgttca cgcacgtgcc cgcccgccag ctgctgctga actgccgcct ggtctgcagc
180
ctctggcggg acctcatcga cctcgtgacc ctctggaaac gcaagtgcct gcgagagggc
240
ttcatcactg aggactggga ccagcccgtg gccgactgga agatcttcta cttcttacgg
300
agcctgcaca ggaacctcct gcacaacccg tgcgctgaag aggggttcga gttctggagc
360
ctggatgtga atggaggcga tgagtggaag gtggaggatc tctctcgaga ccagaggaag
420
gaattccccca atgaccaggt caagaaatac ttcgttactt catattacac ctgcctcaag
480
tcccaggtgg tggacctcaa ggccgaaggg tattgggagg agctactaga cacattccgg
540
ccggacatcg tggttaagga ctggtttgct gccagagccg actgtggctg cacctaccaa
600
ctcaaagtgc agctcctgtc ggctgactac ttcgtgttgg cctccttcga gccagacccg
660
gcgaccatcc agcagaagag cgatgccaag tggagggagg tctcccacac attctccaac
720
tacccgcccg gcgtccgcta catctggttt cagcacggcg cgtggacac tcattactgg
780
gccggctggt acggcccgag ggtcaccaac agcagcatca ccatcgggcc cccgctgccc
840
tgacacccc tgagccccca tctgctgaac cctgactggt aaacaactgc tgtcagaaaa
900
gggctgggct tgggaagggg aggtggaggc caggtgtccc cagacctcta acccttgccc
960
ctagcagcct cttctttgtg gagcctctca gtgtgggcag ccctcgcatg ctggggtcgg
1020
gccagctctc cccgaaaggt cttgacctga atgatggccg gggaagcctg cgtgtgcccc
1080
tttcagagac ggagcacct
1099


<210> 5506
<211> 280
<212> PRT
<213> Homo sapiens
```

<400> 5506
Lys Leu Gly Arg Pro Ser Gly Ser Cys Arg Gly Gly Arg Ala Gln Leu
1   5   10   15
Gln Glu Gly Val Gln Lys Pro Gln Ala Met Ala Val Gly Asn Ile Asn
            20   25   30
Glu Leu Pro Glu Asn Ile Leu Leu Glu Leu Phe Thr His Val Pro Ala
            35   40   45
Arg Gln Leu Leu Leu Asn Cys Arg Leu Val Cys Ser Leu Trp Arg Asp
        50   55   60
Leu Ile Asp Leu Val Thr Leu Trp Lys Arg Lys Cys Leu Arg Glu Gly
65   70   75   80
Phe Ile Thr Glu Asp Trp Asp Gln Pro Val Ala Asp Trp Lys Ile Phe
                85   90   95
Tyr Phe Leu Arg Ser Leu His Arg Asn Leu Leu His Asn Pro Cys Ala
            100   105   110
Glu Glu Gly Phe Glu Phe Trp Ser Leu Asp Val Asn Gly Gly Asp Glu
            115   120   125
Trp Lys Val Glu Asp Leu Ser Arg Asp Gln Arg Lys Glu Phe Pro Asn
        130   135   140
Asp Gln Val Lys Lys Tyr Phe Val Thr Ser Tyr Tyr Thr Cys Leu Lys
145   150   155   160
Ser Gln Val Val Asp Leu Lys Ala Glu Gly Tyr Trp Glu Glu Leu Leu
                165   170   175
Asp Thr Phe Arg Pro Asp Ile Val Val Lys Asp Trp Phe Ala Ala Arg
                180   185   190
Ala Asp Cys Gly Cys Thr Tyr Gln Leu Lys Val Gln Leu Leu Ser Ala
            195   200   205
Asp Tyr Phe Val Leu Ala Ser Phe Glu Pro Asp Pro Ala Thr Ile Gln
    210   215   220
Gln Lys Ser Asp Ala Lys Trp Arg Glu Val Ser His Thr Phe Ser Asn
225   230   235   240
Tyr Pro Pro Gly Val Arg Tyr Ile Trp Phe Gln His Gly Gly Val Asp
                245   250   255
Thr His Tyr Trp Ala Gly Trp Tyr Gly Pro Arg Val Thr Asn Ser Ser
            260   265   270
Ile Thr Ile Gly Pro Pro Leu Pro
        275   280

<210> 5507
<211> 1658
<212> DNA
<213> Homo sapiens

<400> 5507
nttttagaaa gccaaggaat tgagttaaat ccaccagaga agatggctct tgatccttac
60
actgaactcc gaaaacagcc tcttcgtaag tatgtcaccc catcagactt tgatcaactc
120
aagcaatttc tcacctttga caaacaggtc cttcgattct atgcaatctg ggatgataca
180
gacagcatgt atggtgaatg tcggacctac atcattcatt actatcttat ggatgatacg
240
gtggaaattc gagaggtcca cgaacggaat gatgggagag atcctttccc actcctaatg
300

```
aaccgccagc gtgtgcccaa agttttggtg gaaaatgcaa agaacttccc tcagtgtgtg
360
ctagaaatct ctgaccaaga agtgttggaa tggtatactg ctaaagactt cattgttggg
420
aagtcactca ctatccttgg gagaactttc ttcatttatg attgtgatcc atttactcga
480
cggtattaca aagagaagtt tggaatcact gatttaccac gtattgatgt gagcaagcgg
540
gaaccacctc cagtaaaaca ggagttgcct ccttataacg gttttggact agtggaagat
600
tctgctcaga attgttttgc tctcattcca aaagctccaa aaaagacgt tattaaaatg
660
ctggtgaatg ataacaaggt gcttcgttat ttggctgtac tggaatcccc catcccagaa
720
gacaaagacc gcagatttgt cttctcttac tttctagcta ccgacatgat cagtatcttt
780
gagcctcctg ttcgcaattc tggtatcatt gggggcaagt accttggcag gactaaagtt
840
gttaaaccat actctacagt ggacaaccct gtctactatg ccccagtga cttcttcatt
900
ggtgctgtga ttgaagtgtt tggtcaccgg ttcatcatcc ttgatacaga cgagtatgtt
960
ttgaaataca tggagagcaa cgctgcccag tattcaccag aagcactcgc gtcaattcag
1020
aaccatgtcc gaaagcgaga gcgcctgct ccagaagcag aaagcaagca aactgaaaag
1080
gatccaggcg tgcaggaatt ggaagcatta atagacacaa ttcagaagca actgaaagat
1140
cactcatgca aagacaacat tcgtgaggca tttcaaattt atgacaagga agcttcagga
1200
tatgtggaca gagacatgtt ctttaaaatc tgtgaatcgc ttaacgtccc agtggatgac
1260
tccttggtta aggagttaat caggatgtgc tctcatggag aaggcaaaat taactactat
1320
aactttgttc gtgctttctc aaactgacct gctgatgaga aaatgcaaga caatttttga
1380
tactggaact atgctttgaa atacacctta cactcttcat agaggcattt acagggttcc
1440
tgaagtttta tttctgtttt ggttcttatt tcactcctac tgaagtcgaa actaaattgg
1500
atctaatagg atctaagatt ggtgccttat ttagggtgat aggggtatag caatgtctaa
1560
ttttgtgtgt caaattgact tggccacagg gggcccaaat atttcctttc tttctttta
1620
aaaaaataaa ttttttggga gatgggaaaa aaaaaaaa
1658
```

```
<210> 5508
<211> 448
<212> PRT
<213> Homo sapiens

<400> 5508
Xaa Leu Glu Ser Gln Gly Ile Glu Leu Asn Pro Pro Glu Lys Met Ala
```

```
 1               5                  10                 15
Leu Asp Pro Tyr Thr Glu Leu Arg Lys Gln Pro Leu Arg Lys Tyr Val
            20                 25                 30
Thr Pro Ser Asp Phe Asp Gln Leu Lys Gln Phe Leu Thr Phe Asp Lys
            35                 40                 45
Gln Val Leu Arg Phe Tyr Ala Ile Trp Asp Asp Thr Asp Ser Met Tyr
        50                 55                 60
Gly Glu Cys Arg Thr Tyr Ile Ile His Tyr Tyr Leu Met Asp Asp Thr
65                 70                 75                 80
Val Glu Ile Arg Glu Val His Glu Arg Asn Asp Gly Arg Asp Pro Phe
                85                 90                 95
Pro Leu Leu Met Asn Arg Gln Arg Val Pro Lys Val Leu Val Glu Asn
            100                105                110
Ala Lys Asn Phe Pro Gln Cys Val Leu Glu Ile Ser Asp Gln Glu Val
            115                120                125
Leu Glu Trp Tyr Thr Ala Lys Asp Phe Ile Val Gly Lys Ser Leu Thr
        130                135                140
Ile Leu Gly Arg Thr Phe Phe Ile Tyr Asp Cys Asp Pro Phe Thr Arg
145                150                155                160
Arg Tyr Tyr Lys Glu Lys Phe Gly Ile Thr Asp Leu Pro Arg Ile Asp
                165                170                175
Val Ser Lys Arg Glu Pro Pro Pro Val Lys Gln Glu Leu Pro Pro Tyr
            180                185                190
Asn Gly Phe Gly Leu Val Glu Asp Ser Ala Gln Asn Cys Phe Ala Leu
            195                200                205
Ile Pro Lys Ala Pro Lys Lys Asp Val Ile Lys Met Leu Val Asn Asp
    210                215                220
Asn Lys Val Leu Arg Tyr Leu Ala Val Leu Glu Ser Pro Ile Pro Glu
225                230                235                240
Asp Lys Asp Arg Arg Phe Val Phe Ser Tyr Phe Leu Ala Thr Asp Met
                245                250                255
Ile Ser Ile Phe Glu Pro Pro Val Arg Asn Ser Gly Ile Ile Gly Gly
            260                265                270
Lys Tyr Leu Gly Arg Thr Lys Val Val Lys Pro Tyr Ser Thr Val Asp
    275                280                285
Asn Pro Val Tyr Tyr Gly Pro Ser Asp Phe Phe Ile Gly Ala Val Ile
    290                295                300
Glu Val Phe Gly His Arg Phe Ile Ile Leu Asp Thr Asp Glu Tyr Val
305                310                315                320
Leu Lys Tyr Met Glu Ser Asn Ala Ala Gln Tyr Ser Pro Glu Ala Leu
            325                330                335
Ala Ser Ile Gln Asn His Val Arg Lys Arg Glu Ala Pro Ala Pro Glu
            340                345                350
Ala Glu Ser Lys Gln Thr Glu Lys Asp Pro Gly Val Gln Glu Leu Glu
            355                360                365
Ala Leu Ile Asp Thr Ile Gln Lys Gln Leu Lys Asp His Ser Cys Lys
    370                375                380
Asp Asn Ile Arg Glu Ala Phe Gln Ile Tyr Asp Lys Glu Ala Ser Gly
385                390                395                400
Tyr Val Asp Arg Asp Met Phe Phe Lys Ile Cys Glu Ser Leu Asn Val
                405                410                415
Pro Val Asp Asp Ser Leu Val Lys Glu Leu Ile Arg Met Cys Ser His
            420                425                430
Gly Glu Gly Lys Ile Asn Tyr Tyr Asn Phe Val Arg Ala Phe Ser Asn
```

              435   440   445

<210> 5509
<211> 818
<212> DNA
<213> Homo sapiens

<400> 5509
ccactgtgtg aagagaaatt agggtgaccc aggcagtaca tcctactccc tggacccacc
60
aaggagagct gtatttgtgt ttcatggttg ctttaccaaa taattctagc atcggaattg
120
ctatgtgaga ggaagtaagt atacacagcg taagaggtgt gataaccaag tcatagaaga
180
aatgtttgga gaacatggaa tcatgtgaac ttattatgtg gtaagtacag atacccaggg
240
ctgtcagtct caccatcctt ttctacacat gtggatgctt caggactcca gcctttgagg
300
atgtggcttt caacttcacc ctacaggaaa ggtagtcaat gtggagaagc cttcagccag
360
attccaggtc ataatctgaa taagaaaacg cctcctggag taaagccacc tgaaagccat
420
gtgtgtggag aggtcggcgt gggctatcca tccactgaaa ggcacatcag agatcgcctt
480
ggacgcaaac cctgtgaata tcaggaatgt agacagaagg catatacatg taagccatgt
540
gggaatgcct ttcgttttca ccactccttt cacatacacg aaaggcctca cagtggagaa
600
aacctctatg aatgttagga atttcagaaa acattcactt cccccccaaa ccttcaaaga
660
tgtgaaaatg catagtggag atggacctta caaatgcaag gtgggtagga aaacctttga
720
ctctcccagt tcatttcgaa tacatggaag atctcattct ggagagaaac ccaatgtgtg
780
taggcactgt gggagcacct acaatcattt cagttttg
818

<210> 5510
<211> 105
<212> PRT
<213> Homo sapiens

<400> 5510
Met Trp Leu Ser Thr Ser Pro Tyr Arg Lys Gly Ser Gln Cys Gly Glu
1   5   10   15
Ala Phe Ser Gln Ile Pro Gly His Asn Leu Asn Lys Lys Thr Pro Pro
            20   25   30
Gly Val Lys Pro Pro Glu Ser His Val Cys Gly Glu Val Gly Val Gly
            35   40   45
Tyr Pro Ser Thr Glu Arg His Ile Arg Asp Arg Leu Gly Arg Lys Pro
        50   55   60
Cys Glu Tyr Gln Glu Cys Arg Gln Lys Ala Tyr Thr Cys Lys Pro Cys
65   70   75   80
Gly Asn Ala Phe Arg Phe His His Ser Phe His Ile His Glu Arg Pro

```
                    85                    · 90                      95
His Ser Gly Glu Asn Leu Tyr Glu Cys
            100                    105
```

<210> 5511
<211> 379
<212> DNA
<213> Homo sapiens

<400> 5511
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tccggagtgt cacaggcctc agccacaagg ctttcctgat tgggctccac atctgcagaa
60
ccttccttgg gaaaagaggg catcgtctca atcgcatagt cacacacatc ccttaactca
120
ctctgctgag ttgctgagag tctgtgttcc tctctccact tataggatgg gtcctcatct
180
tcttgagctt caagccccaa ggcagagacc tggctgctcc tcatgggagc ctcagggata
240
atgctgaatt cctctatggc agagatggga ggagaggctc cacgctgggc ctcctcagcc
300
tccatcaggg ctgaatcctg gtcggtgtca catgctgctt cggccccagc gtcccctcca
360
ggtcccggcg ccggccgcn
379
```

<210> 5512
<211> 101
<212> PRT
<213> Homo sapiens

<400> 5512
```
Met Glu Ala Glu Glu Ala Gln Arg Gly Ala Ser Pro Pro Ile Ser Ala
  1               5                  10                  15
Ile Glu Glu Phe Ser Ile Ile Pro Glu Ala Pro Met Arg Ser Ser Gln
              20                  25                  30
Val Ser Ala Leu Gly Leu Glu Ala Gln Glu Asp Glu Asp Pro Ser Tyr
          35                  40                  45
Lys Trp Arg Glu Glu His Arg Leu Ser Ala Thr Gln Gln Ser Glu Leu
      50                  55                  60
Arg Asp Val Cys Asp Tyr Ala Ile Glu Thr Met Pro Ser Phe Pro Lys
65                  70                  75                  80
Glu Gly Ser Ala Asp Val Glu Pro Asn Gln Glu Ser Leu Val Ala Glu
              85                  90                  95
Ala Cys Asp Thr Pro
              100
```

<210> 5513
<211> 837
<212> DNA
<213> Homo sapiens

<400> 5513
```
nnaagcttga gttcctctgt ccaaggccag ggacctgtga ccatggaagc agagagaagc
60
```

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aaggccacag ccgcggccct gggcagtttc ccggcaggtg gcccggccga gctgtcgctg
120
agactcgggg agccattgac catcgtctct gaggatggag actggtggac ggtgctgtct
180
gaagtctcag gcagagagta aacatcccc agcgtccacg tggccaaagt ctcccatggg
240
tggctgtatg agggcctgag cagggagaaa gcagaggacc tgctgttgtt acctgggaac
300
cctggagggg ccttcctcat ccgggagagc cagaccagga gaggctctta ctctctgtca
360
gtccgcctca gccgccctgc atcctgggac cggatcagac actacaggat ccactgcctt
420
gacaatggct ggctgtacat ctcaccgcgc ctcaccttcc cctcactcca ggccctggtg
480
gaccattact ctgagctggc ggatgacatc tgctgcctac tcaaggagcc ctgtgtcctg
540
cagagggctg gcccgctccc tggcaaggat atacccctac ctgtgactgt gcagaggaca
600
ccactcaact ggaaagagct ggacagctcc ctcctgtttt ctgaagctgc cacaggggag
660
gagtctcttc tcagtgaggg tctccgggag tccctcagct tctacatcag cctgaatgac
720
gaggctgtct ctttggatga tgcctaggcc caaaggagag gccaaaaggg aaaccaaggc
780
tgcacaccta gaaccccaat tcagcctcct gggcacccca gaggcaaggc tgtgcac
837
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<210> 5514
<211> 248
<212> PRT
<213> Homo sapiens

<400> 5514
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Xaa Ser Leu Ser Ser Ser Val Gln Gly Gln Gly Pro Val Thr Met Glu
1               5                   10                  15
Ala Glu Arg Ser Lys Ala Thr Ala Ala Leu Gly Ser Phe Pro Ala
            20                  25                  30
Gly Gly Pro Ala Glu Leu Ser Leu Arg Leu Gly Glu Pro Leu Thr Ile
        35                  40                  45
Val Ser Glu Asp Gly Asp Trp Trp Thr Val Leu Ser Glu Val Ser Gly
        50                  55                  60
Arg Glu Tyr Asn Ile Pro Ser Val His Val Ala Lys Val Ser His Gly
65                  70                  75                  80
Trp Leu Tyr Glu Gly Leu Ser Arg Glu Lys Ala Glu Asp Leu Leu Leu
                85                  90                  95
Leu Pro Gly Asn Pro Gly Gly Ala Phe Leu Ile Arg Glu Ser Gln Thr
                100                 105                 110
Arg Arg Gly Ser Tyr Ser Leu Ser Val Arg Leu Ser Arg Pro Ala Ser
            115                 120                 125
Trp Asp Arg Ile Arg His Tyr Arg Ile His Cys Leu Asp Asn Gly Trp
        130                 135                 140
Leu Tyr Ile Ser Pro Arg Leu Thr Phe Pro Ser Leu Gln Ala Leu Val
145                 150                 155                 160
Asp His Tyr Ser Glu Leu Ala Asp Asp Ile Cys Cys Leu Leu Lys Glu
```

```
                    165                    170                    175
Pro Cys Val Leu Gln Arg Ala Gly Pro Leu Pro Gly Lys Asp Ile Pro
            180                    185                    190
Leu Pro Val Thr Val Gln Arg Thr Pro Leu Asn Trp Lys Glu Leu Asp
        195                    200                    205
Ser Ser Leu Leu Phe Ser Glu Ala Ala Thr Gly Glu Glu Ser Leu Leu
    210                    215                    220
Ser Glu Gly Leu Arg Glu Ser Leu Ser Phe Tyr Ile Ser Leu Asn Asp
225                    230                    235                    240
Glu Ala Val Ser Leu Asp Asp Ala
                245


<210> 5515
<211> 420
<212> DNA
<213> Homo sapiens


<400> 5515
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gaaaggatgt ccgcacagct ggctgctgct gagagcagac aaaagaagct ggaaatggag
120
aagcttcagc tacaagccct tgagcaagag cacaagaagc tggctgcccg ccttgaggaa
180
gagcgtggca agaacaagca ggtggtcctg atgctggtca agagtgcaa gcagctctca
240
agcaaagtca tagaggaggc ccagaagctc gaagacgtaa tggccaaact ggcttcttct
300
ctttgtcacc agcacctgct tcatagtctc tctggagtgc caggaacggg tcatatagat
360
taaatctccc ataccgttcc tggataaata cctccttcct gcgagcccgc agggcctcga
420


<210> 5516
<211> 120
<212> PRT
<213> Homo sapiens


<400> 5516
Val Cys Thr Asn Pro Leu Ser Ile Leu Glu Ala Val Met Ala His Cys
  1                5                   10                   15
Lys Lys Met Gln Glu Arg Met Ser Ala Gln Leu Ala Ala Ala Glu Ser
            20                   25                   30
Arg Gln Lys Lys Leu Glu Met Glu Lys Leu Gln Leu Gln Ala Leu Glu
        35                   40                   45
Gln Glu His Lys Lys Leu Ala Ala Arg Leu Glu Glu Glu Arg Gly Lys
    50                   55                   60
Asn Lys Gln Val Val Leu Met Leu Val Lys Glu Cys Lys Gln Leu Ser
65                   70                   75                   80
Ser Lys Val Ile Glu Glu Ala Gln Lys Leu Glu Asp Val Met Ala Lys
            85                   90                   95
Leu Ala Ser Ser Leu Cys His Gln His Leu Leu His Ser Leu Ser Gly
            100                  105                  110
Val Pro Gly Thr Gly His Ile Asp
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                  115   120

<210> 5517
<211> 804
<212> DNA
<213> Homo sapiens

<400> 5517
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120
atccgtgcca gcagtctcca ggttcagaag caattcaaga ccctgatgat agctctccag
180
caaccaacac atggtgacat ggtgattgtg ccaacttgtt gctcagttat atgcagggcc
240
agtgattggt ttaagtgaag accatggttg agatcatttg tctttggtct aatagaattt
300
gagctagtag aatttgagtc tccagggaaa gagctacttg accaaattaa actagtagca
360
ggtagagcat gaatgacagc atattatacc atcaagatgt tcttagagca gtgtatggat
420
ggatcgattg tactgccatc agttgtgact gacgttgtat tcaaggagaa agagaaactt
480
gtttagaaag cactttgaaa gttttttgag tacgggggtg ccctgtatca ccccgttatg
540
gttgaacttt ctccttcaaa attaccagac ttggcagcag tggcaaatta ttgggctaaa
600
agacttaatc agacatattc tgggttcaag gctcctaata taatacctgg tgcaaacatt
660
atacttccac tcattcagat ggttgcatcc tgccaggcat ccagtgggac tgggaatatg
720
gacacttgaa cattaaacat cctgaagaat tttggaatga caggttacaa gtgaacataa
780
tcagttctct atattaaaaa aaaa
804

<210> 5518
<211> 85
<212> PRT
<213> Homo sapiens

<400> 5518
Xaa Val Trp Pro Lys His Lys Gly Lys Asp Pro Gln Phe Thr Phe Leu
 1   5   10   15
Glu Leu Ser Ser Val Leu Tyr Cys Cys Asp Leu Leu Ile Gly Ile Gly
            20   25   30
Ile Val Val Gly Ser Ser Asp Arg Ile Arg Ala Ser Ser Leu Gln Val
            35   40   45
Gln Lys Gln Phe Lys Thr Leu Met Ile Ala Leu Gln Gln Pro Thr His
        50   55   60
Gly Asp Met Val Ile Val Pro Thr Cys Cys Ser Val Ile Cys Arg Ala
65   70   75   80
Ser Asp Trp Phe Lys

                                    4693

85

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<210> 5519
<211> 401
<212> DNA
<213> Homo sapiens

<400> 5519
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tccttcgcat aacttgtaca ggggtaggta gcataaaaga cagccggtct caagaagcaa
120
ccatgcgcct cactacttac catgttcctg cgggcattcc cctcccgaag ggagtctctg
180
aaaacaaaca cacacagaag ttggcgctgg gcaccacatt ctcctcttga cctaaccatc
240
aggaatttgc tgtgccatct gttcataaaa cttagccagg cccagaaagc ttgtcccaac
300
cacatgctaa gagccaagca gatggaacag aagctccccc aagctgctgg ctcccactat
360
ggctgggatg aagcaagaac ctgggcccac acaggctgca a
401

<210> 5520
<211> 101
<212> PRT
<213> Homo sapiens

<400> 5520
Met Trp Leu Gly Gln Ala Phe Trp Ala Trp Leu Ser Phe Met Asn Arg
1               5                   10                  15
Trp His Ser Lys Phe Leu Met Val Arg Ser Arg Gly Glu Cys Gly Ala
            20                  25                  30
Gln Arg Gln Leu Leu Cys Val Phe Val Phe Arg Asp Ser Leu Arg Glu
        35                  40                  45
Gly Asn Ala Arg Arg Asn Met Val Ser Ser Glu Ala His Gly Cys Phe
    50                  55                  60
Leu Arg Pro Ala Val Phe Tyr Ala Thr Tyr Pro Cys Thr Ser Tyr Ala
65                  70                  75                  80
Lys Glu Thr Lys Pro Ser Ala Cys Leu Phe Pro Leu Leu Ile Ile Gly
                85                  90                  95
Lys Trp Met Leu Trp
                100

<210> 5521
<211> 2524
<212> DNA
<213> Homo sapiens

<400> 5521
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cgcggttggc tactcagtgt cttggtctca agttgcctca ttgcggctgg cgttcccaat
120
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acagacgcat cgtttctttt ttaatactcc ctaagaaagg gaataacctt caagctggcg
180
ggagcaatgg ttcacataaa gaaaggcgag ctgacccagg aggagaagga gctactggaa
240
gtcatcggga aaggtactgt ccaagaagct ggaacattat tatccagcaa gaatgttcgt
300
gtcaactgtt tggacgagaa tggaatgact cctctaatgc atgcagcata taaaggaaaa
360
ctcgatatgt gcaaattact actgcgacat ggagccgatg taaattgtca tcagcatgaa
420
catggataca cagccctcat gtttgctgca ctttctggta ataaagacat cacatgggta
480
atgttagagg ctggtgctga gacagatgtt gtcaactctg tgggaagaac agcagctcag
540
atggcagcct ttgtgggtca acatgattgt gtgaccataa tcaacaattt ctttcctcga
600
gagagactgg attattacac taagccccag ggactggata aagagccaaa actgcccca
660
aagttggcag ccccgctgca caaaattatc accacaacga atcttcatcc tgtcaagatc
720
gtgatgcttg taaatgagaa tcctctgctg acagaagaag cagccctgaa taaatgctac
780
agagtgatgg atttgatttg tgagaaatgt atgaagcaaa gagacatgaa tgaagtattg
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gctatgaaga tgcattacat aagctgtatc tttcagaaat gcattaactt cttaaaagat
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960
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1020
gccacactcc tacagcagct ggtgcgaagc atcgctccag ttgaaattgg ttctgatccc
1080
actgcattct ccgtccttac ccaagccatc actggccagg tgggtttttgt ggatgtggaa
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1200
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1260
aatctgaagg acatttacga aaagcaacag ttggaggctg ccaaagaaaa gagacaagag
1320
gaaaaccacg gcaaacttga tgtcaattct aactgtgtta atgaagagca accagaggct
1380
gaagtaggta tctctcaaag ggattccaat cctgaagatt ccggggaagg aaagaaagaa
1440
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1500
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1560
ggaaaactcc taggaatgca ttgtcctcac cttgttatac ctgcgtggca ccatggcagg
1620
attccacatt tcatagaata caggttttca agcaaacccc tgttgaccat gccctaattt
1680
cctattgatt tctgttctat gattgaatgg atattcctat ggaaaatttt ttgtttcaaa
1740
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atacaggaaa aacataccta ttacctttct gaggctggct ttccagcaat tgtttcaaag
1800
gaaaatagat ccccttaaag aaaaaataca ggctttaggg aacaaaggga caagcagaac
1860
aggtgtggaa gagagatttt caggaaggga aaaatttata gctacagagg gtagttagaa
1920
aaatcataac ttatatgtga ataaaataca tataagcagc atttacggta gtggcattct
1980
acttattaag atgcaatgaa atgaagaaag gctttatgtt caaggacctt tgccatagtt
2040
cagctaattg tagtttttata tagaaatgat cctgaacact ctgaacttga cgtagtcctg
2100
cggtgatatt ctatctgcag tatttgtacc tccagaatgg cagatccctc agcaggaaca
2160
aaggcatatt gacggttctc tcagcgtatg cattaaaaaa ggtacttcct gaaacttttg
2220
attcaataat gactaaacat actatgtaca caattactgt aaggctaatt cacgtgccat
2280
acgccacctg aaagcctgag ttatcttgct ataagctttt catggagcac ttcctttcca
2340
gaaactgatt tgtaactcat ttagagaatg tcctggcgtc ggtttttagc atatgtggta
2400
tttaaacaga gctagaatgt gatgtctgaa gataatgctg catttctggg tttcttgtgt
2460
ggattttaaa ataaattgtg cctacaaata taaaaaaaaa aaaaaaaaaa aaaaaaaaaa
2520
aaaa
2524
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```
<210> 5522
<211> 441
<212> PRT
<213> Homo sapiens
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<400> 5522
Met Val His Ile Lys Lys Gly Glu Leu Thr Gln Glu Glu Lys Glu Leu
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Leu Glu Val Ile Gly Lys Gly Thr Val Gln Glu Ala Gly Thr Leu Leu
                20                  25                  30
Ser Ser Lys Asn Val Arg Val Asn Cys Leu Asp Glu Asn Gly Met Thr
        35                  40                  45
Pro Leu Met His Ala Ala Tyr Lys Gly Lys Leu Asp Met Cys Lys Leu
    50                  55                  60
Leu Leu Arg His Gly Ala Asp Val Asn Cys His Gln His Glu His Gly
65                  70                  75                  80
Tyr Thr Ala Leu Met Phe Ala Ala Leu Ser Gly Asn Lys Asp Ile Thr
                85                  90                  95
Trp Val Met Leu Glu Ala Gly Ala Glu Thr Asp Val Val Asn Ser Val
                100                 105                 110
Gly Arg Thr Ala Ala Gln Met Ala Ala Phe Val Gly Gln His Asp Cys
            115                 120                 125
Val Thr Ile Ile Asn Asn Phe Phe Pro Arg Glu Arg Leu Asp Tyr Tyr
    130                 135                 140
Thr Lys Pro Gln Gly Leu Asp Lys Glu Pro Lys Leu Pro Pro Lys Leu
```

```
   145                      150                      155                      160
Ala Gly Pro Leu His Lys Ile Ile Thr Thr Thr Asn Leu His Pro Val
                    165                      170                      175
Lys Ile Val Met Leu Val Asn Glu Asn Pro Leu Leu Thr Glu Glu Ala
                    180                      185                      190
Ala Leu Asn Lys Cys Tyr Arg Val Met Asp Leu Ile Cys Glu Lys Cys
                    195                      200                      205
Met Lys Gln Arg Asp Met Asn Glu Val Leu Ala Met Lys Met His Tyr
                    210                      215                      220
Ile Ser Cys Ile Phe Gln Lys Cys Ile Asn Phe Leu Lys Asp Gly Glu
225                      230                      235                      240
Asn Lys Leu Asp Thr Leu Ile Lys Ser Leu Leu Lys Gly Arg Ala Ser
                    245                      250                      255
Asp Gly Phe Pro Val Tyr Gln Glu Lys Ile Ile Arg Glu Ser Ile Arg
                    260                      265                      270
Lys Phe Pro Tyr Cys Glu Ala Thr Leu Leu Gln Gln Leu Val Arg Ser
                    275                      280                      285
Ile Ala Pro Val Glu Ile Gly Ser Asp Pro Thr Ala Phe Ser Val Leu
                    290                      295                      300
Thr Gln Ala Ile Thr Gly Gln Val Gly Phe Val Asp Val Glu Phe Cys
305                      310                      315                      320
Thr Thr Cys Gly Glu Lys Gly Ala Ser Lys Arg Cys Ser Val Cys Lys
                    325                      330                      335
Met Val Ile Tyr Cys Asp Gln Thr Cys Gln Lys Thr His Trp Phe Thr
                    340                      345                      350
His Lys Lys Ile Cys Lys Asn Leu Lys Asp Ile Tyr Glu Lys Gln Gln
                    355                      360                      365
Leu Glu Ala Ala Lys Glu Lys Arg Gln Glu Glu Asn His Gly Lys Leu
                    370                      375                      380
Asp Val Asn Ser Asn Cys Val Asn Glu Glu Gln Pro Glu Ala Glu Val
385                      390                      395                      400
Gly Ile Ser Gln Arg Asp Ser Asn Pro Glu Asp Ser Gly Glu Gly Lys
                    405                      410                      415
Lys Glu Ser Leu Glu Ser Glu Ala Glu Leu Glu Gly Leu Gln Asp Ala
                    420                      425                      430
Pro Ala Gly Pro Gln Val Ser Glu Glu
          435                      440
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<210> 5523
<211> 6190
<212> DNA
<213> Homo sapiens
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<400> 5523
naaaacctcc tgggaaataa ccgtgacccc ctggctcgtg ggggccgcct gttctcacta
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acgccatggc ggggaccgga gtgagaaacc ggtgtctgtc actgactgca aagtgagcga
120
gaagcaggct gcgggccgtc ccagcacgac gtggagcccc gcggagacct cgagatgccc
180
cgcgggggaag ctcctggccc cgggagacgg ggggctaagg acgaggccct gggcgaagaa
240
tcggggggagc ggtggagccc cgagttccat ctgcagagga aattggcgga cagcagccac
300
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agtgaacagc aagatcgaaa cagagtttct gaagaactta tcatggttgt ccaagaaatg
360
aaaaaatact tcccctcgga gagacgcaat aaaccaagca ctctagatgc cctcaactat
420
gctctccgct gtgtccacag cgttcaagca aacagtgagt ttttccagat tctcagtcag
480
aatggagcac ctcaggcaga tgtgagcatg tacagtcttg aggagctggc cactatcgct
540
tcagaacaca cttccaaaaa cacagatacc tttgtggcag tattttcatt tctgtctgga
600
aggttagtgc acatttctga acaggctgct ttgatcctga atcgtaagaa agatgtcctg
660
gcgtcttctc actttgttga cctgcttgca cctcaagaca tgagggtatt ctacgcgcac
720
actgccagag ctcagcttcc tttctggaac aactggaccc aaagagctgc acggtatgaa
780
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840
aagtgtcact ccccattccg gatcatcccc tatctgattc atgtacatca ccctgcccag
900
ccagaattgg aatcggaacc ttgctgtctc actgtggttg aaaagattca ctctggttat
960
gaagctcctc ggatcccagt gaataaaaga atcttcacca ccacacacac cccagggtgt
1020
gtttttcttg aagtagatga aaaagcagtg cctttgctgg gttacctacc tcaggacctg
1080
attggaacat cgatcctaag ctacctgcac cctgaagatc gttctctgat ggttgccata
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1260
tctttcatca ttggtcggca taaagttcga acgagcccac taaatgagga tgtttttgct
1320
accaaaatta aaaagatgaa cgataatgac aaagacataa cagaattaca agaacaaatt
1380
tacaaacttc tcttacagcc agttcacgtg agcgtgtcca gcggctacgg gagcctgggg
1440
agcagcgggt cgcaggagca gcttgtcagc atcgcctcct ccagtgaggc cagtgggcac
1500
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1560
aaaattaaaa atctgggtca gcagctctac attgagtcaa tgaccaaatc atcattcaag
1620
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1680
ttccaccaaa cactgaaaaa caatagtgtg tacactgagc cctgtgagga tttgaggaac
1740
gatgagcaca gcccatccta tcaacagatc aactgtatcg acagtgtcat cagatacctg
1800
aagagctaca acattccagc tttgaaaaga aagtgtatct cctgtacaaa tacaacttct
1860
tcctcctcag aagaagacaa acagaaccac aaggcagatg atgtccaagc cttacaaggt
1920
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aacaagaatg cccctcagaa aatgccaaca aatggacggt ccatagacac aggaggagga
1980
gctccacaga tcctgtccac ggcgatgctg agcttggggt cgggcataag ccaatgcggt
2040
tacagcagca ccattgtcca tgtcccaccc ccagagacag ccagggatgc taccctcttc
2100
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2160
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2220
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2280
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2400
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2580
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2640
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2760
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2820
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3180
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3420
cagaaaaaag aaacatttcc taatgtcgcc gaagagccca tctggagaat gatacggcag
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3540
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aaagaagacc tggaaaagct agaaagtatg aggcagcagc agccccagtt ttctcatggg
3600
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3660
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3720
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3780
accctttcca agacgtgtta cacagacaga cctttttaag tcctggactt ttaaatgacc
3840
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3960
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4380
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4920
aaacttggaa tgatagatga aattcacacc cctgcagatc agaaaaaaca aatagaagaa
4980
aatgagggtt acagtaacct gttgtcttta tataacttgc aacaaactaa tttatttttt
5040
tttcctttt ttgttttgg tttttatgg tttttaagg aaaatacttt tctcctttga
5100
agttttacag cttttttgtaa atgcgtcctg ataatgatta ggaaaatcga ccttttcatc
5160
```

catgatgacc atcctcatag ctcagatctc ctttcaaagt agtggctttc tggatggtaa
5220
ttccatctta aggtgtcaga actattttca aatgctgcct ttgacagttc ttggaatttt
5280
ctgatattaa gcagttccat gcaaatattc gtgttttata aatagctctc atagtctgct
5340
ccatcttgat agttaagtga tttctgaagc gtttgtgtgt gtgttgatca ggttgtgtga
5400
tatttttgct tgataaagaa tcaaatttga aacaattaac cagccagtag attgtctgtc
5460
agtgaccttc tgtagtaata aagttttttgc cactgtaaat aaaaacagta tccgtagcta
5520
tcaggatcat tgcgcactca tatatgctaa gccttctgtt ctctaataga agcctttctt
5580
ttccattgtt tctggatatt tgtattatcc aaatgtgctt atttctttgc cttagcacac
5640
gttttatgga gtacttgtta tactaggttt gatttgaaac tggtgcttgt cgcagaactg
5700
tcagagcatg aggagcgctc ctcctgtggg tggacgcatt cacgcactcc caggttgcac
5760
ctgctgctgg cggtgagcag ggggttcagc agcttgaccg atgccccccg aggggggctct
5820
ccccagctta aactttgttg tttaaatttg ttaacttttt atattaatga ctattgaaag
5880
tggtaataaa aatttatatt ataggcttca atgttttcat gaatgttacc caaaaagctg
5940
tgttttcttt ggtcagaggt caaaatttat gaaaaacaaa atgctgtatg aatggaaatc
6000
attttgcaat tgagtgacac ttcattgtaa ttcacagtgt aaatttaatc caaactgaaa
6060
ttttgtttca actgaatttg taattaactc tgaatttgtt tttaatcatt agtaatattt
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6180
aaaaaaaaa
6190

<210> 5524
<211> 1193
<212> PRT
<213> Homo sapiens

<400> 5524
Met Pro Arg Gly Glu Ala Pro Gly Pro Gly Arg Arg Gly Ala Lys Asp
1   5   10   15
Glu Ala Leu Gly Glu Glu Ser Gly Glu Arg Trp Ser Pro Glu Phe His
            20   25   30
Leu Gln Arg Lys Leu Ala Asp Ser Ser His Ser Glu Gln Gln Asp Arg
        35   40   45
Asn Arg Val Ser Glu Glu Leu Ile Met Val Val Gln Glu Met Lys Lys
    50   55   60
Tyr Phe Pro Ser Glu Arg Arg Asn Lys Pro Ser Thr Leu Asp Ala Leu
65   70   75   80
Asn Tyr Ala Leu Arg Cys Val His Ser Val Gln Ala Asn Ser Glu Phe

4701

```
                        85                  90                  95
Phe Gln Ile Leu Ser Gln Asn Gly Ala Pro Gln Ala Asp Val Ser Met
            100                 105                 110
Tyr Ser Leu Glu Glu Leu Ala Thr Ile Ala Ser Glu His Thr Ser Lys
        115                 120                 125
Asn Thr Asp Thr Phe Val Ala Val Phe Ser Phe Leu Ser Gly Arg Leu
    130                 135                 140
Val His Ile Ser Glu Gln Ala Ala Leu Ile Leu Asn Arg Lys Lys Asp
145                 150                 155                 160
Val Leu Ala Ser Ser His Phe Val Asp Leu Leu Ala Pro Gln Asp Met
                165                 170                 175
Arg Val Phe Tyr Ala His Thr Ala Arg Ala Gln Leu Pro Phe Trp Asn
            180                 185                 190
Asn Trp Thr Gln Arg Ala Ala Arg Tyr Glu Cys Ala Pro Val Lys Pro
        195                 200                 205
Phe Phe Cys Arg Ile Arg Gly Gly Glu Asp Arg Lys Gln Glu Lys Cys
    210                 215                 220
His Ser Pro Phe Arg Ile Ile Pro Tyr Leu Ile His Val His His Pro
225                 230                 235                 240
Ala Gln Pro Glu Leu Glu Ser Glu Pro Cys Cys Leu Thr Val Val Glu
                245                 250                 255
Lys Ile His Ser Gly Tyr Glu Ala Pro Arg Ile Pro Val Asn Lys Arg
            260                 265                 270
Ile Phe Thr Thr Thr His Thr Pro Gly Cys Val Phe Leu Glu Val Asp
        275                 280                 285
Glu Lys Ala Val Pro Leu Leu Gly Tyr Leu Pro Gln Asp Leu Ile Gly
    290                 295                 300
Thr Ser Ile Leu Ser Tyr Leu His Pro Glu Asp Arg Ser Leu Met Val
305                 310                 315                 320
Ala Ile His Gln Lys Gly His Pro Pro Phe Glu His Ser Pro Ile Arg
                325                 330                 335
Phe Cys Thr Gln Asn Gly Asp Tyr Ile Ile Leu Asp Ser Ser Trp Ser
            340                 345                 350
Ser Phe Val Asn Pro Trp Ser Arg Lys Ile Ser Phe Ile Ile Gly Arg
        355                 360                 365
His Lys Val Arg Thr Ser Pro Leu Asn Glu Asp Val Phe Ala Thr Lys
    370                 375                 380
Ile Lys Lys Met Asn Asp Asn Asp Lys Asp Ile Thr Glu Leu Gln Glu
385                 390                 395                 400
Gln Ile Tyr Lys Leu Leu Leu Gln Pro Val His Val Ser Val Ser Ser
            405                 410                 415
Gly Tyr Gly Ser Leu Gly Ser Ser Gly Ser Gln Glu Gln Leu Val Ser
        420                 425                 430
Ile Ala Ser Ser Ser Glu Ala Ser Gly His Arg Val Glu Glu Thr Lys
    435                 440                 445
Ala Glu Gln Met Thr Leu Gln Gln Val Tyr Ala Ser Val Asn Lys Ile
    450                 455                 460
Lys Asn Leu Gly Gln Gln Leu Tyr Ile Glu Ser Met Thr Lys Ser Ser
465                 470                 475                 480
Phe Lys Pro Val Thr Gly Thr Arg Thr Glu Pro Asn Gly Gly Gly Glu
                485                 490                 495
Cys Lys Thr Phe Thr Ser Phe His Gln Thr Leu Lys Asn Asn Ser Val
            500                 505                 510
```

```
Tyr Thr Glu Pro Cys Glu Asp Leu Arg Asn Asp Glu His Ser Pro Ser
515             520             525
Tyr Gln Gln Ile Asn Cys Ile Asp Ser Val Ile Arg Tyr Leu Lys Ser
    530             535             540
Tyr Asn Ile Pro Ala Leu Lys Arg Lys Cys Ile Ser Cys Thr Asn Thr
545             550             555             560
Thr Ser Ser Ser Ser Glu Glu Asp Lys Gln Asn His Lys Ala Asp Asp
            565             570             575
Val Gln Ala Leu Gln Gly Asn Lys Asn Ala Pro Gln Lys Met Pro Thr
        580             585             590
Asn Gly Arg Ser Ile Asp Thr Gly Gly Gly Ala Pro Gln Ile Leu Ser
        595             600             605
Thr Ala Met Leu Ser Leu Gly Ser Gly Ile Ser Gln Cys Gly Tyr Ser
    610             615             620
Ser Thr Ile Val His Val Pro Pro Pro Glu Thr Ala Arg Asp Ala Thr
625             630             635             640
Leu Phe Cys Glu Pro Trp Thr Leu Asn Met Gln Pro Ala Pro Leu Thr
            645             650             655
Ser Glu Glu Phe Lys His Val Gly Leu Thr Ala Ala Val Leu Ser Ala
            660             665             670
His Thr Gln Lys Glu Glu Gln Asn Tyr Val Asp Lys Phe Arg Glu Lys
        675             680             685
Ile Leu Ser Ser Pro Tyr Ser Ser Tyr Leu Gln Gln Glu Ser Arg Ser
    690             695             700
Lys Ala Lys Tyr Ser Tyr Phe Gln Gly Asp Ser Thr Ser Lys Gln Thr
705             710             715             720
Arg Ser Ala Gly Cys Arg Lys Gly Lys His Lys Arg Lys Lys Leu Pro
            725             730             735
Glu Pro Pro Asp Ser Ser Ser Ser Asn Thr Gly Ser Gly Pro Arg Arg
            740             745             750
Gly Ala His Gln Asn Ala Gln Pro Cys Cys Pro Ser Ala Ala Ser Ser
        755             760             765
Pro His Thr Ser Ser Pro Thr Phe Pro Pro Ala Ala Met Val Pro Ser
    770             775             780
Gln Ala Pro Tyr Leu Val Pro Ala Phe Pro Leu Pro Ala Ala Thr Ser
785             790             795             800
Pro Gly Arg Glu Tyr Ala Ala Pro Gly Thr Ala Pro Glu Gly Leu His
            805             810             815
Gly Pro Pro Leu Ser Glu Gly Leu Gln Pro Tyr Pro Ala Phe Pro Phe
            820             825             830
Pro Tyr Leu Asp Thr Phe Met Thr Val Phe Leu Pro Asp Pro Pro Val
        835             840             845
Cys Pro Leu Leu Ser Pro Ser Phe Leu Pro Cys Pro Phe Leu Gly Ala
    850             855             860
Thr Ala Ser Ser Ala Ile Ser Pro Ser Met Ser Ser Ala Met Ser Pro
865             870             875             880
Thr Leu Asp Pro Pro Pro Ser Val Thr Ser Gln Arg Arg Glu Glu Glu
            885             890             895
Lys Trp Glu Ala Gln Ser Glu Gly His Pro Phe Ile Thr Ser Arg Ser
        900             905             910
Ser Ser Pro Leu Gln Leu Asn Leu Leu Gln Glu Glu Met Pro Arg Pro
        915             920             925
Ser Glu Ser Pro Asp Gln Met Arg Arg Asn Thr Cys Pro Gln Thr Glu
    930             935             940
```

```
Tyr Gln Cys Val Thr Gly Asn Asn Gly Ser Glu Ser Ser Pro Ala Thr
945                 950                 955                 960
Thr Gly Ala Leu Ser Thr Gly Ser Pro Pro Arg Glu Asn Pro Ser His
                965                 970                 975
Pro Thr Ala Ser Ala Leu Ser Thr Gly Ser Pro Pro Met Lys Asn Pro
            980                 985                 990
Ser His Pro Thr Ala Ser Ala Leu Ser Thr Gly Ser Pro Pro Met Lys
        995                 1000                1005
Asn Pro Ser His Pro Thr Ala Ser Thr Leu Ser Met Gly Leu Pro Pro
    1010                1015                1020
Ser Arg Thr Pro Ser His Pro Thr Ala Thr Val Leu Ser Thr Gly Ser
1025                1030                1035                1040
Pro Pro Ser Glu Ser Pro Ser Arg Thr Gly Ser Ala Ala Ser Gly Ser
                1045                1050                1055
Ser Asp Ser Ser Ile Tyr Leu Thr Ser Ser Val Tyr Ser Ser Lys Ile
                1060                1065                1070
Ser Gln Asn Gly Gln Gln Ser Gln Asp Val Gln Lys Lys Glu Thr Phe
            1075                1080                1085
Pro Asn Val Ala Glu Glu Pro Ile Trp Arg Met Ile Arg Gln Thr Pro
    1090                1095                1100
Glu Arg Ile Leu Met Thr Tyr Gln Val Pro Glu Arg Val Lys Glu Val
1105                1110                1115                1120
Val Leu Lys Glu Asp Leu Glu Lys Leu Glu Ser Met Arg Gln Gln Gln
                1125                1130                1135
Pro Gln Phe Ser His Gly Gln Lys Glu Glu Leu Ala Lys Val Tyr Asn
            1140                1145                1150
Trp Ile Gln Ser Gln Thr Val Thr Gln Glu Ile Asp Ile Gln Ala Cys
        1155                1160                1165
Val Thr Cys Glu Asn Glu Asp Ser Ala Asp Gly Ala Ala Thr Ser Cys
    1170                1175                1180
Gly Gln Val Leu Val Glu Asp Ser Cys
1185                1190
```

```
<210> 5525
<211> 761
<212> DNA
<213> Homo sapiens

<400> 5525
nggatccaag gtgagttgtc tggcaagaga agagtaggac tctgcatacc atgcccagag
60
ctgagatgga ctttatctgc ctacctgcct ctgcttgctc agtgggaaca tgaggagaga
120
gtgggcatca gtggttctgg ggcagggtct ctcttctgag atggggatta aggaagaggg
180
tgagcagggg tggatgttta gggggatgcc taaattcccc agtaaggaga ccgcagataa
240
actcaactct gtccatctta gcaggctat gtgacctttg aggatgtggc tgtctacttc
300
tcccaggagg aatggagatt gcttgatgac gctcagaggc tcctctaccg caatgtgatg
360
ctggagaact ttacacttct ggcctctctg ggacttgcgt cttccaagac ccatgaaata
420
```

```
acccagctgg agtcatggga ggagcccttc atgcctgctt gggaagttgt gacttcagcc
480
ataccgagag aaactctgag gatggccttt atgagggagc tggcaattga acatcattca
540
tctaaatatg cacactggag gcaagatgag aattcctgac agattgtcct tcctgagaag
600
acagccctct gccttggagc tccagagaga gggagccctg tattcttggc tgtacccgtc
660
gaatggagtt ttgatctcgc tgagtttgga gttggggggag gaaaggagtg gtcttggttc
720
aaatgtgact cactttttgct gttcttgtga atgttagatc t
761
```

<210> 5526
<211> 102
<212> PRT
<213> Homo sapiens

<400> 5526

```
Val Thr Phe Glu Asp Val Ala Val Tyr Phe Ser Gln Glu Glu Trp Arg
 1               5                  10                  15
Leu Leu Asp Asp Ala Gln Arg Leu Leu Tyr Arg Asn Val Met Leu Glu
            20                  25                  30
Asn Phe Thr Leu Leu Ala Ser Leu Gly Leu Ala Ser Ser Lys Thr His
        35                  40                  45
Glu Ile Thr Gln Leu Glu Ser Trp Glu Glu Pro Phe Met Pro Ala Trp
    50                  55                  60
Glu Val Val Thr Ser Ala Ile Pro Arg Glu Thr Leu Arg Met Ala Phe
65                  70                  75                  80
Met Arg Glu Leu Ala Ile Glu His His Ser Ser Lys Tyr Ala His Trp
                85                  90                  95
Arg Gln Asp Glu Asn Ser
            100
```

<210> 5527
<211> 728
<212> DNA
<213> Homo sapiens

<400> 5527

```
nnagatctga cactaaaggg catgagaacc actggatatc tgtatattcc ggctttggca
60
gcgttgcact ctcccagttc tctactctcc cctcaggtca ccggattgaa actgtctcag
120
gaccttgatg atcttgccat tctctacctg gccacagttc aagccattgc tttggggact
180
cgcttcatta tagaagccat ggaggcagca gggcactcaa tcagtactct tttcctatgt
240
ggaggcctca gcaagaatcc cctttttgtg caaatgcatg cggacattac tggcatgcct
300
gtggtcctgt cgcaagaggt ggagtccgtt cttgtgggtg ctgctgttct gggtgcctgt
360
gcctcagggg atttcgcttc tgtacaggaa gcaatggcaa aaatgagcaa agttgggaaa
420
```

```
gttgtgttcc cgagactaca ggataaaaaa tactatgata agaaatacca agtattcctg
480
aagctggttg aacaccagaa ggagtatttg gcgatcatga atgatgactg aacagggctt
540
gcaggtgctg atgccagaag cttatgtgcc attgcattaa agacttctgt catttgatcc
600
atgttcaaga cccttgaggt attgtttcat catttctgta ttgtctttca ataaagaaaa
660
caaacatgtg caaccagaaa aaaaaaaaaa aaaataaaa aaaaaaaaaa aaaaaaaaaa
720
aaaaaaaa
728
```

```
<210> 5528
<211> 176
<212> PRT
<213> Homo sapiens
```

```
<400> 5528
Xaa Asp Leu Thr Leu Lys Gly Met Arg Thr Thr Gly Tyr Leu Tyr Ile
 1               5                  10                  15
Pro Ala Leu Ala Ala Leu His Ser Pro Ser Ser Leu Leu Ser Pro Gln
            20                  25                  30
Val Thr Gly Leu Lys Leu Ser Gln Asp Leu Asp Asp Leu Ala Ile Leu
        35                  40                  45
Tyr Leu Ala Thr Val Gln Ala Ile Ala Leu Gly Thr Arg Phe Ile Ile
    50                  55                  60
Glu Ala Met Glu Ala Ala Gly His Ser Ile Ser Thr Leu Phe Leu Cys
65                  70                  75                  80
Gly Gly Leu Ser Lys Asn Pro Leu Phe Val Gln Met His Ala Asp Ile
                85                  90                  95
Thr Gly Met Pro Val Val Leu Ser Gln Glu Val Glu Ser Val Leu Val
            100                 105                 110
Gly Ala Ala Val Leu Gly Ala Cys Ala Ser Gly Asp Phe Ala Ser Val
        115                 120                 125
Gln Glu Ala Met Ala Lys Met Ser Lys Val Gly Lys Val Val Phe Pro
    130                 135                 140
Arg Leu Gln Asp Lys Lys Tyr Tyr Asp Lys Lys Tyr Gln Val Phe Leu
145                 150                 155                 160
Lys Leu Val Glu His Gln Lys Glu Tyr Leu Ala Ile Met Asn Asp Asp
                165                 170                 175
```

```
<210> 5529
<211> 2602
<212> DNA
<213> Homo sapiens
```

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<400> 5529
nntgcccacc ttttgtgggg ggggaaagga cacaaggttt tttttttttt tttttttta
60
gcaatggcgg ttcccggcgt ggggctcttg acccgtttga acctgtgtgc ccggagaaga
120
actcgagtcc agcggcctat cgtcaggctt ttgagttgcc caggaactgt ggccaaagac
180
```

cttaggagag acgagcagcc ttcagggagc gtggagacag gttttgaaga caagattccc
240
aaaaggagat tctctgagat gcaaaatgaa agacgagaac aggcacagcg gactgtttta
300
atacattgcc cagagaaaat cagtgaaaac aagtttctta aatatttatc ccaatttgga
360
cctattaata atcatttctt ctatgaaagc tttggtctct atgctgtcgt agaattttgc
420
caaaaggaaa gcataggttc actgcagaat gggactcata ctccaagcac ggccatggag
480
actgcaattc cattcagatc acgtttcttc aatctgaagt tgaaaaacca gacttctgaa
540
cggtcacgcg tacggtcaag taatcagttg ccacgttcaa acaagcagct ttttgaatta
600
ctttgttatg cagaaagtat agacgatcag ctgaacactc tcttgaagga gttccagcta
660
acagaggaga acactaagct ccgatatctc acctgttctc ttattgaaga catggccgcc
720
gcgtattttc cagactgcat agtcagaccc tttggctcct cagtcaacac ttttgggaag
780
ttaggatgtg atttggacat gtttttggat ctagatgaaa ccagaaacct cagcgctcac
840
aagatctcag gaaattttct gatggaattt caagtgaaaa atgttccttc agaaagaatt
900
gcaactcaga agatcctgtc tgtgttagga gagtgccttg accactttgg ccctggctgt
960
gtgggtgtgc aaaaaatatt aaatgcccgg tgtccgctcg tgaggttctc acaccaggcc
1020
tccggatttc agtgtgattt gactacgaac aataggattg ccttgacaag ttccgaactc
1080
ctttatatat atggtgccct agactcaaga gtgagagcct tggtgttcag tgtacggtgc
1140
tgggctcgag cacattcact aacaagtagt attcctggtg catggattac aaatttctcc
1200
cttacaatga tggtcatctt ttttctccag agaagatcac cccctattct tccaacacta
1260
gattccttaa aaaccctagc agatgcagaa gataaatgtg taatagaagg caacaactgc
1320
acatttgttc gtgacttgag tagaattaaa ccttcacaga acacagaaac attagaatta
1380
ctactgaagg aattttttga gtattttggc aattttgctt tcgataaaaa ttccataaat
1440
attcgacagg gaagggagca aaacaaacct gattcttctc ctctgtacat tcagaatcca
1500
tttgaaactt ctctcaacat aagcaaaaat gtaagtcaaa gccagctgca aaaatttgta
1560
gatttggccc gagaaagtgc ctggattta caacaggaag atacagatcg accttccata
1620
tcaagtaatc ggccctgggg gctggtatcc ctattgctac catctgctcc aaacagaaag
1680
tcctttacca agaagaaaag caataagttt gcaattgaaa cagtcaaaaa cttgctagaa
1740
tctttaaaag gtaacagaac agaaaatttc acaaaaacca gtgggaagag aacaattagt
1800

```
actcagacat gatggctgct acattgtgta aagaactggg cttagcctat caaatggtct
1860
gtggacttac ttggaaaaac tgatttgaaa cttteacaga tctcagcttt catctgatgt
1920
cactttteat gatcttctca ttggeececet taacctggtc tgaagttctg ggatgttttc
1980
agtttgatca gtctgatact cagtggcact ttattaaaac atcagctgtg gagtgtggcg
2040
gtgcacacct gtagtcccag ctgctcagga ggctgaggca ggaggatctc ttgagcccag
2100
gattttgaat ccatcgtgga caacatagca agattccatc tctaaaaaaa atgaaaataa
2160
acataagcca caaggaatgg gtgaaagatt attgtaatgt gctttaacta aataggtaaa
2220
tatactaaac aaatgctaaa actcagtttt aggatgaaac cattgttgat atccacatca
2280
gtccctgttt agaaaacatt taaaatgact tttagttatg tacagtacgt tggcaatgaa
2340
tacattaagc ttcaaaattt ggtagtgctc tcgaatatgt atatttgtat ttttcaagcg
2400
aagttctctt attcacatat aaattaaagt gggttggtac tgatatcaaa aaatgtttat
2460
gtttttagaa cagacatttc agtcactgca ttcttaggta ttccaaacca aatatgatga
2520
catcaataga ttgcatttta aaaatattgt ttgattttc tattttcaaa aataaaattc
2580
tgtttctaac taaaaaaaaa aa
2602
```

```
<210> 5530
<211> 603
<212> PRT
<213> Homo sapiens
```

```
<400> 5530
Xaa Ala His Leu Leu Trp Gly Gly Lys Gly His Lys Val Phe Phe Phe
1               5                   10                  15
Phe Phe Phe Leu Ala Met Ala Val Pro Gly Val Gly Leu Leu Thr Arg
            20                  25                  30
Leu Asn Leu Cys Ala Arg Arg Arg Thr Arg Val Gln Arg Pro Ile Val
        35                  40                  45
Arg Leu Leu Ser Cys Pro Gly Thr Val Ala Lys Asp Leu Arg Arg Asp
    50                  55                  60
Glu Gln Pro Ser Gly Ser Val Glu Thr Gly Phe Glu Asp Lys Ile Pro
65                  70                  75                  80
Lys Arg Arg Phe Ser Glu Met Gln Asn Glu Arg Arg Glu Gln Ala Gln
                85                  90                  95
Arg Thr Val Leu Ile His Cys Pro Glu Lys Ile Ser Glu Asn Lys Phe
                100                 105                 110
Leu Lys Tyr Leu Ser Gln Phe Gly Pro Ile Asn Asn His Phe Phe Tyr
            115                 120                 125
Glu Ser Phe Gly Leu Tyr Ala Val Val Glu Phe Cys Gln Lys Glu Ser
        130                 135                 140
Ile Gly Ser Leu Gln Asn Gly Thr His Thr Pro Ser Thr Ala Met Glu
```

```
145                     150                     155                     160
Thr Ala Ile Pro Phe Arg Ser Arg Phe Phe Asn Leu Lys Leu Lys Asn
                165                     170                     175
Gln Thr Ser Glu Arg Ser Arg Val Arg Ser Ser Asn Gln Leu Pro Arg
                180                     185                     190
Ser Asn Lys Gln Leu Phe Glu Leu Leu Cys Tyr Ala Glu Ser Ile Asp
            195                     200                     205
Asp Gln Leu Asn Thr Leu Leu Lys Glu Phe Gln Leu Thr Glu Glu Asn
    210                     215                     220
Thr Lys Leu Arg Tyr Leu Thr Cys Ser Leu Ile Glu Asp Met Ala Ala
225                     230                     235                     240
Ala Tyr Phe Pro Asp Cys Ile Val Arg Pro Phe Gly Ser Ser Val Asn
                245                     250                     255
Thr Phe Gly Lys Leu Gly Cys Asp Leu Asp Met Phe Leu Asp Leu Asp
                260                     265                     270
Glu Thr Arg Asn Leu Ser Ala His Lys Ile Ser Gly Asn Phe Leu Met
            275                     280                     285
Glu Phe Gln Val Lys Asn Val Pro Ser Glu Arg Ile Ala Thr Gln Lys
    290                     295                     300
Ile Leu Ser Val Leu Gly Glu Cys Leu Asp His Phe Gly Pro Gly Cys
305                     310                     315                     320
Val Gly Val Gln Lys Ile Leu Asn Ala Arg Cys Pro Leu Val Arg Phe
                325                     330                     335
Ser His Gln Ala Ser Gly Phe Gln Cys Asp Leu Thr Thr Asn Asn Arg
            340                     345                     350
Ile Ala Leu Thr Ser Ser Glu Leu Leu Tyr Ile Tyr Gly Ala Leu Asp
            355                     360                     365
Ser Arg Val Arg Ala Leu Val Phe Ser Val Arg Cys Trp Ala Arg Ala
    370                     375                     380
His Ser Leu Thr Ser Ser Ile Pro Gly Ala Trp Ile Thr Asn Phe Ser
385                     390                     395                     400
Leu Thr Met Met Val Ile Phe Phe Leu Gln Arg Arg Ser Pro Pro Ile
                405                     410                     415
Leu Pro Thr Leu Asp Ser Leu Lys Thr Leu Ala Asp Ala Glu Asp Lys
            420                     425                     430
Cys Val Ile Glu Gly Asn Asn Cys Thr Phe Val Arg Asp Leu Ser Arg
    435                     440                     445
Ile Lys Pro Ser Gln Asn Thr Glu Thr Leu Glu Leu Leu Leu Lys Glu
    450                     455                     460
Phe Phe Glu Tyr Phe Gly Asn Phe Ala Phe Asp Lys Asn Ser Ile Asn
465                     470                     475                     480
Ile Arg Gln Gly Arg Glu Gln Asn Lys Pro Asp Ser Ser Pro Leu Tyr
                485                     490                     495
Ile Gln Asn Pro Phe Glu Thr Ser Leu Asn Ile Ser Lys Asn Val Ser
            500                     505                     510
Gln Ser Gln Leu Gln Lys Phe Val Asp Leu Ala Arg Glu Ser Ala Trp
            515                     520                     525
Ile Leu Gln Gln Glu Asp Thr Asp Arg Pro Ser Ile Ser Ser Asn Arg
    530                     535                     540
Pro Trp Gly Leu Val Ser Leu Leu Leu Pro Ser Ala Pro Asn Arg Lys
545                     550                     555                     560
Ser Phe Thr Lys Lys Lys Ser Asn Lys Phe Ala Ile Glu Thr Val Lys
                565                     570                     575
Asn Leu Leu Glu Ser Leu Lys Gly Asn Arg Thr Glu Asn Phe Thr Lys
```

```
                  580                      585                      590
Thr Ser Gly Lys Arg Thr Ile Ser Thr Gln Thr
           595                    600


<210> 5531
<211> 3056
<212> DNA
<213> Homo sapiens


<400> 5531
gccccgtccg cgtgacgctc ctgcctgcgc gcggccaagc catgctccgc cccagctcag
60
gtaacggagg ccttggaaag agactctgcg tcaggtcacc cagcagagat cagcaatcct
120
tggctcactg aggaggtttg gatttgcctc aaagggcact gcaaaaattg aacagaggaa
180
tcccaaggaa gctgcctgaa tttgcctgta tactctcgtt ctgcgactta taaaggacca
240
gacaaatcaa attagtggtt ttggtttccg ccagctgtgg atgcctttga cattatgacc
300
gcagaggatt ccaccgcagc catgagcagt gactcggccg ccgggtcctc ggccaaggtg
360
cccgagggcg tggcgggcgc gcccaacgag gcagcactgc tggcgctgat ggagcgcacg
420
ggctacagca tggtgcaaga gaacgggcag cgcaagtacg cggcccacc gcccggctgg
480
gagggcccgc accgcagcg tggctgcgag gtcttcgtgg caagatccc gcgcgacgtg
540
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1320
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2940
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<210> 5532
<211> 593
<212> PRT
<213> Homo sapiens

<400> 5532
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                20   25   30
Ala Ala Leu Leu Ala Leu Met Glu Arg Thr Gly Tyr Ser Met Val Gln
            35   40   45
Glu Asn Gly Gln Arg Lys Tyr Gly Gly Pro Pro Pro Gly Trp Glu Gly
        50   55   60
Pro His Pro Gln Arg Gly Cys Glu Val Phe Val Gly Lys Ile Pro Arg
65   70   75   80
Asp Val Tyr Glu Asp Glu Leu Val Pro Val Phe Glu Ala Val Gly Arg
                85   90   95
Ile Tyr Glu Leu Arg Leu Met Met Asp Phe Asp Gly Lys Asn Arg Gly
            100   105   110
Tyr Ala Phe Val Met Tyr Cys His Lys His Glu Ala Lys Arg Ala Val
            115   120   125
Arg Glu Leu Asn Asn Tyr Glu Ile Arg Pro Gly Arg Leu Leu Gly Val
        130   135   140
Cys Cys Ser Val Asp Asn Cys Arg Leu Phe Ile Gly Gly Ile Pro Lys
145   150   155   160
Met Lys Lys Arg Glu Glu Ile Leu Glu Glu Ile Ala Lys Val Thr Glu
                165   170   175
Gly Val Leu Asp Val Ile Val Tyr Ala Ser Ala Ala Asp Lys Met Lys
                180   185   190
Asn Arg Gly Phe Ala Phe Val Glu Tyr Glu Ser His Arg Ala Ala Ala
            195   200   205
Met Ala Arg Arg Lys Leu Met Pro Gly Arg Ile Gln Leu Trp Gly His
        210   215   220
Gln Ile Ala Val Asp Trp Ala Glu Pro Glu Ile Asp Val Asp Glu Asp
225   230   235   240
Val Met Glu Thr Val Lys Ile Leu Tyr Val Arg Asn Leu Met Ile Glu
                245   250   255
Thr Thr Glu Asp Thr Ile Lys Lys Ser Phe Gly Gln Phe Asn Pro Gly
                260   265   270
Cys Val Glu Arg Val Lys Lys Ile Arg Asp Tyr Ala Phe Val His Phe
        275   280   285
Thr Ser Arg Glu Asp Ala Val His Ala Met Asn Asn Leu Asn Gly Thr
        290   295   300
Glu Leu Glu Gly Ser Cys Leu Glu Val Thr Leu Ala Lys Pro Val Asp
305   310   315   320
Lys Glu Gln Tyr Ser Arg Tyr Gln Lys Ala Ala Arg Gly Gly Gly Ala
                325   330   335
Ala Glu Ala Ala Gln Gln Pro Ser Tyr Val Tyr Ser Cys Asp Pro Tyr

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            340                 345                 350
Thr Leu Ala Tyr Tyr Gly Tyr Pro Tyr Asn Ala Leu Ile Gly Pro Asn
        355                 360                 365
Arg Asp Tyr Phe Val Lys Ala Gly Ser Ile Arg Gly Arg Gly Arg Gly
    370                 375                 380
Ala Ala Gly Asn Arg Ala Pro Gly Pro Arg Gly Ser Tyr Leu Gly Gly
385                 390                 395                 400
Tyr Ser Ala Gly Arg Gly Ile Tyr Ser Arg Tyr His Glu Gly Lys Gly
            405                 410                 415
Lys Gln Gln Glu Lys Gly Tyr Glu Leu Val Pro Asn Leu Glu Ile Pro
        420                 425                 430
Thr Val Asn Pro Val Ala Ile Lys Pro Gly Thr Val Ala Ile Pro Ala
        435                 440                 445
Ile Gly Ala Gln Tyr Ser Met Phe Pro Ala Ala Pro Ala Pro Lys Met
    450                 455                 460
Ile Glu Asp Gly Lys Ile His Thr Val Glu His Met Ile Ser Pro Ile
465                 470                 475                 480
Ala Val Gln Pro Asp Pro Ala Ser Ala Ala Ala Ala Ala Ala Ala Ala
            485                 490                 495
Ala Ala Ala Ala Ala Ala Val Ile Pro Thr Val Ser Thr Pro Pro Pro
        500                 505                 510
Phe Gln Gly Arg Pro Ile Thr Pro Val Tyr Thr Val Ala Pro Asn Val
        515                 520                 525
Gln Arg Ile Pro Thr Ala Gly Ile Tyr Gly Ala Ser Tyr Val Pro Phe
    530                 535                 540
Ala Ala Pro Ala Thr Ala Thr Ile Ala Thr Leu Gln Lys Asn Ala Ala
545                 550                 555                 560
Ala Ala Ala Ala Val Tyr Gly Gly Tyr Ala Gly Tyr Ile Pro Gln Ala
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Phe Pro Ala Ala Ala Ile Gln Val Pro Ile Pro Asp Val Tyr Gln Thr
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<210> 5533
<211> 505
<212> DNA
<213> Homo sapiens

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120
gaatccatcg acgaggatga actcctcgcc tccctgtcag ccgaggagct gaaggagcta
180
gagagagagt tggaagacat tgaacctgac cgcaaccttc cgtggggct aaggcaaaag
240
agcctgacag agaaaacccc cacagggaca ttcagcagag aggcactgat ggcctattgg
300
gaaaaggagt cccaaaaact cttggagaag gagaggctgg gggaatgtgg aaaggttgca
360
gaagacaaag aggaaagtga ggaagagctt atctttactg aaagtaacag tgaggtttct
420
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480
agtgacgaag aggaaagaac aattg
505


<210> 5534
<211> 168
<212> PRT
<213> Homo sapiens


<400> 5534
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Gln Ala Pro Ser Gly Ser Asp Lys Ala Gly Thr Met Ser Thr Phe Gly
                20                  25                  30
Tyr Arg Arg Gly Leu Ser Lys Tyr Glu Ser Ile Asp Glu Asp Glu Leu
            35                  40                  45
Leu Ala Ser Leu Ser Ala Glu Glu Leu Lys Glu Leu Glu Arg Glu Leu
        50                  55                  60
Glu Asp Ile Glu Pro Asp Arg Asn Leu Pro Val Gly Leu Arg Gln Lys
65                  70                  75                  80
Ser Leu Thr Glu Lys Thr Pro Thr Gly Thr Phe Ser Arg Glu Ala Leu
                85                  90                  95
Met Ala Tyr Trp Glu Lys Glu Ser Gln Lys Leu Leu Glu Lys Glu Arg
                100                 105                 110
Leu Gly Glu Cys Gly Lys Val Ala Glu Asp Lys Glu Glu Ser Glu Glu
            115                 120                 125
Glu Leu Ile Phe Thr Glu Ser Asn Ser Glu Val Ser Glu Glu Val Tyr
        130                 135                 140
Thr Glu Glu Glu Glu Glu Glu Ser Gln Glu Glu Glu Glu Glu Glu Asp
145                 150                 155                 160
Ser Asp Glu Glu Glu Arg Thr Ile
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<210> 5535
<211> 1887
<212> DNA
<213> Homo sapiens


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120
tctgacccca gagcctgtgc ctttaaccac tggctaggct gaactgcctt tgttcttcac
180
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240
gcacctgctc tctaaacatt cacacaaacc ctgcaaattt tcttcctcat aattgggaga
300
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420
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600
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720
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1740
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1887

<210> 5536
<211> 306
<212> PRT

<213> Homo sapiens

<400> 5536
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Thr Ser Leu Thr Ala Asn Pro Asp Ala Thr Thr Val Asn Ile Glu Asp
            20   25   30
Pro Gly Glu Thr Pro Lys His Gln Pro Gly Ser Pro Arg Gly Ser Gly
        35   40   45
Arg Glu Glu Asp Asp Glu Leu Leu Gly Asn Asp Asp Ser Asp Lys Thr
    50   55   60
Glu Leu Leu Ala Gly Gln Lys Lys Ser Ser Pro Phe Trp Thr Phe Glu
65   70   75   80
Tyr Tyr Gln Thr Phe Phe Asp Val Asp Thr Tyr Gln Val Phe Asp Arg
                85   90   95
Ile Lys Gly Ser Leu Leu Pro Ile Pro Gly Lys Asn Phe Val Arg Leu
            100   105   110
Tyr Ile Arg Ser Asn Pro Asp Leu Tyr Gly Pro Phe Trp Ile Cys Ala
            115   120   125
Thr Leu Val Phe Ala Ile Ala Ile Ser Gly Asn Leu Ser Asn Phe Leu
    130   135   140
Ile His Leu Gly Glu Lys Thr Tyr His Tyr Val Pro Glu Phe Arg Lys
145   150   155   160
Val Ser Ile Ala Ala Thr Ile Ile Tyr Ala Tyr Ala Trp Leu Val Pro
                165   170   175
Leu Ala Leu Trp Gly Phe Leu Met Trp Arg Asn Ser Lys Val Met Asn
            180   185   190
Ile Val Ser Tyr Ser Phe Leu Glu Ile Val Cys Val Tyr Gly Tyr Ser
            195   200   205
Leu Phe Ile Tyr Ile Pro Thr Ala Ile Leu Trp Ile Ile Pro Gln Lys
    210   215   220
Ala Val Arg Trp Ile Leu Val Met Ile Ala Leu Gly Ile Ser Gly Ser
225   230   235   240
Leu Leu Ala Met Thr Phe Trp Pro Ala Val Arg Glu Asp Asn Arg Arg
                245   250   255
Val Ala Leu Ala Thr Ile Val Thr Ile Val Leu Leu His Met Leu Leu
                260   265   270
Ser Val Gly Cys Leu Ala Tyr Phe Phe Asp Ala Pro Glu Met Asp His
        275   280   285
Leu Pro Thr Thr Thr Ala Thr Pro Asn Gln Thr Val Ala Ala Ala Lys
    290   295   300
Ser Ser
305

<210> 5537
<211> 2881
<212> DNA
<213> Homo sapiens

<400> 5537
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120

4716

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1740
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<210> 5538
<211> 352
<212> PRT
<213> Homo sapiens

<400> 5538
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            20   25   30
Ala Glu Leu Arg His Leu Asp Thr Gln Val Gln Arg Cys Glu Asp Ile
        35   40   45
Leu Gln Gln Leu Gln Ala Val Val Pro Gln Ile Asp Met Glu Gly Asp

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      50                  55                  60
Arg Asn Ile Trp Ile Val Lys Pro Gly Ala Lys Ser Arg Gly Arg Gly
65                  70                  75                  80
Ile Met Cys Met Asp His Leu Glu Glu Met Leu Lys Leu Val Asn Gly
                85                  90                  95
Asn Pro Val Val Met Lys Asp Gly Lys Trp Val Val Gln Lys Tyr Ile
            100                 105                 110
Glu Arg Pro Leu Leu Ile Phe Gly Thr Lys Phe Asp Leu Arg Gln Trp
        115                 120                 125
Phe Leu Val Thr Asp Trp Asn Pro Leu Thr Val Trp Phe Tyr Arg Asp
    130                 135                 140
Ser Tyr Ile Arg Phe Ser Thr Gln Pro Phe Ser Leu Lys Asn Leu Asp
145                 150                 155                 160
Asn Ser Val His Leu Cys Asn Asn Ser Ile Gln Lys His Leu Glu Asn
                165                 170                 175
Ser Cys His Arg His Pro Leu Leu Pro Pro Asp Asn Met Trp Ser Ser
            180                 185                 190
Gln Arg Phe Gln Ala His Leu Gln Glu Met Gly Ala Pro Asn Ala Trp
        195                 200                 205
Ser Thr Ile Ile Val Pro Gly Met Lys Asp Ala Val Ile His Ala Leu
    210                 215                 220
Gln Thr Ser Gln Asp Thr Val Gln Cys Arg Lys Ala Ser Phe Glu Leu
225                 230                 235                 240
Tyr Gly Ala Asp Phe Val Phe Gly Glu Asp Phe Gln Pro Trp Leu Ile
            245                 250                 255
Glu Ile Asn Ala Ser Pro Thr Met Ala Pro Ser Thr Ala Val Thr Ala
        260                 265                 270
Arg Leu Cys Ala Gly Val Gln Ala Asp Thr Leu Arg Val Val Ile Asp
        275                 280                 285
Arg Arg Leu Asp Arg Asn Cys Asp Thr Gly Ala Phe Glu Leu Ile Tyr
        290                 295                 300
Lys Gln Pro Val Thr Thr Ser Pro Ala Ser Thr Pro Arg Pro Ser Cys
305                 310                 315                 320
Leu Leu Pro Met Tyr Ser Asp Thr Arg Ala Arg Ser Ser Asp Asp Ser
            325                 330                 335
Thr Ala Ser Trp Trp Ala Leu Arg Pro Cys Arg Pro Gln Ala Arg Pro
            340                 345                 350
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<210> 5539
<211> 1887
<212> DNA
<213> Homo sapiens

<400> 5539
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120
gcatatttgg agttaaaaga accaaatatt actaagtaag cagacgcggg cacgcgctgc
180
ataccgggat ttgtagtccc ttccggggcg gggtacagcg cgcctgcgca gagggccgt
240
cgctcttccg ggcgcatgcg tgcggcagcg gcgccaggac tgactgcgcc gtggaggctg
300

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ctgcagtgtt gtgagttgga agctggggag ctcggcatgg cggtccccgc tgcagccatg
360
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420
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480
cgcgagttcc tggcgcacag cgccaaggtg cactcggtgg cctggagttg cgacgggcgt
540
cgcctagcct cggggtcctt cgacaagacg gccagcgtct tcttgctgga gaggaccggt
600
tggtcaaaga aaacaattat cggggacatg gggatangtg tggaccagct ttgttggcat
660
ccaagtaatc ctgacctatt tgttacggcg tccggagata aaaccattcg catctgggat
720
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780
tggagtcctg atgggcagac cattgctgta ggcaacaagg atgatgtggt gacctttatt
840
gatgccaaga cacaccgttc caaagcagaa gagcagttca agttcgaggt caacgaaatc
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960
ctcagctacc cagaactgaa gcctgtgcag tccatcaacg cccatccttc caactgcatc
1020
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1080
agcctctggg atgtggatga gttagtgtgt gttcggtgct tttccaggct ggattggcct
1140
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1260
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1320
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1380
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1620
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1680
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1740
gggcatggaa gttttttttaa ataattaaaa aaatatatat ataattttga gaattgagca
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1860
aaaaaaaaaa aaaaaaaaa aaaaaaa
1887
```

<210> 5540
<211> 378
<212> PRT
<213> Homo sapiens

<400> 5540
Met Arg Ala Ala Ala Ala Pro Gly Leu Thr Ala Pro Trp Arg Leu Leu
 1   5   10   15
Gln Cys Cys Glu Leu Glu Ala Gly Glu Leu Gly Met Ala Val Pro Ala
            20   25   30
Ala Ala Met Gly Pro Ser Ala Leu Gly Gln Ser Gly Pro Gly Ser Met
        35   40   45
Ala Pro Trp Cys Ser Val Ser Ser Gly Pro Ser Arg Tyr Val Leu Gly
    50   55   60
Met Gln Glu Leu Phe Arg Gly His Ser Lys Thr Arg Glu Phe Leu Ala
65   70   75   80
His Ser Ala Lys Val His Ser Val Ala Trp Ser Cys Asp Gly Arg Arg
                85   90   95
Leu Ala Ser Gly Ser Phe Asp Lys Thr Ala Ser Val Phe Leu Leu Glu
            100   105   110
Arg Thr Gly Trp Ser Lys Lys Thr Ile Ile Gly Asp Met Gly Ile Xaa
            115   120   125
Val Asp Gln Leu Cys Trp His Pro Ser Asn Pro Asp Leu Phe Val Thr
    130   135   140
Ala Ser Gly Asp Lys Thr Ile Arg Ile Trp Asp Val Arg Thr Thr Lys
145   150   155   160
Cys Ile Ala Thr Val Asn Thr Lys Gly Glu Asn Ile Asn Ile Cys Trp
                165   170   175
Ser Pro Asp Gly Gln Thr Ile Ala Val Gly Asn Lys Asp Asp Val Val
            180   185   190
Thr Phe Ile Asp Ala Lys Thr His Arg Ser Lys Ala Glu Glu Gln Phe
            195   200   205
Lys Phe Glu Val Asn Glu Ile Ser Trp Asn Asn Asp Asn Asn Met Phe
    210   215   220
Phe Leu Thr Asn Gly Asn Gly Cys Ile Asn Ile Leu Ser Tyr Pro Glu
225   230   235   240
Leu Lys Pro Val Gln Ser Ile Asn Ala His Pro Ser Asn Cys Ile Cys
                245   250   255
Ile Lys Phe Asp Pro Met Gly Lys Tyr Phe Ala Thr Gly Ser Ala Asp
            260   265   270
Ala Leu Val Ser Leu Trp Asp Val Asp Glu Leu Val Cys Val Arg Cys
            275   280   285
Phe Ser Arg Leu Asp Trp Pro Val Arg Thr Leu Ser Phe Ser His Asp
    290   295   300
Gly Lys Met Leu Ala Ser Ala Ser Glu Asp His Phe Ile Asp Ile Ala
305   310   315   320
Glu Val Glu Thr Gly Asp Lys Leu Trp Glu Val Gln Cys Glu Ser Pro
                325   330   335
Thr Phe Thr Val Ala Trp His Pro Lys Arg Pro Leu Leu Ala Phe Ala
            340   345   350
Cys Asp Asp Lys Asp Gly Lys Tyr Asp Ser Ser Arg Glu Ala Gly Thr
            355   360   365
Val Lys Leu Phe Gly Leu Pro Asn Asp Ser

```
        370                    375
```

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<400> 5541
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120
cccccggagc ctgcaccctt ccgagggcca taggcgaccc agggaactgg agagagctcc
180
agaaaggaaa tcccagcttt cccaaagtcc ctgtggatgc tgacaaaagg agacctgaat
240
ttttggaaga gcctgtacta ggttacccgg ctgcagagtg attttcccct ccggcactga
300
ctctcccct ccaacccca gccgtccaga gtaccatgaa gaattatgag gatgtgtgac
360
agaggtatcc agatgttgat caccactgta ggagcctttg ccgcttttag tttaatgacc
420
attgcagtgg gcacggacta ctggttatat tccagaggtg tgtgcaggac taaatctaca
480
agtgataatg aaaccagcag gaagaatgaa gaagtaatga cccattcggg gctgtggagg
540
acctgctgcc tagaaggggc tttccgaggc gtgtgcaaga aaatcgatca cttccctgaa
600
gatgctgact acgaacagga cacagccgaa tatctcctgc gagctgtgag ggcctccagt
660
gtcttcccca tcctcagtgt cacgctgctg ttcttcggcg ggctctgcgt ggcagccagt
720
gagttccacc gcagcagaca caacgtcatt ctcagcgcgg gcatcttttt tgtctctgca
780
gggttaagca acatcattgg catcatagtt tatatatcag ccaacgccgg agaccccggg
840
cagcgtgact ccaaaaaaag ttactcctat ggttggtcct tttatttcgg agccttctct
900
ttcatcatcg cagaaattgt aggagtggtt gccgtgcaca tctatattga aaaacatcag
960
cagttacgag ccaaatccca ctcggagttc ctgaagaaat ctactttgc ccgcctccca
1020
ccctacaggt atcgattccg gaggcggtca agttctcgct ccaccgagcc cagatcccga
1080
gacctgtccc ccatcagcaa aggcttccac accatccctt ccactgacat ctcgatgttc
1140
accctctccc gggacccctc aaagatcacc atggggaccc tcctcaactc cgaccgggac
1200
cacgctttc tacagttcca caattccaca cccaaagagt tcaaagagtc actgcataat
1260
aatccggcca acaggcgcac cacgcccgtc tgaactgacc tctgacctct gccccacgcc
1320
cagcacagcc ttgggggaag tgtacagaga tgtctctgag gttgcatggc atggtccttg
1380
```

```
tgatggtatt acttttaca aagaatgaaa ccaaatggac tcagccctct cccacatttt
1440
cccctcacccc tccaagtcct aacccctcca tcctctctaa cttttcaagc caatcccttta
1500
atgtcattcc tctctctgtg tatctgtgcc agatgttttc ctttcttcct tctttactgg
1560
aaggacctcc acattcttcc ctccttggaa gaggacttta ctaaaagtca caggtggtgg
1620
ccagggggga tttccgaatc tccatcaggc gcgctcatag ttgtccccat tgtctaccca
1680
cacaaatcct caggaaacca accaccgccc aggtggccct gagggaggca ttcacctttta
1740
tgtgttagaa aaacatgacc agaaatcaaa gatgtcagag ccccgaagca gctaatgtaa
1800
taagcactca tgttattaaa ggttttgcct tgtcgtaacc aaccgaaaaa aaaa
1854


<210> 5542
<211> 315
<212> PRT
<213> Homo sapiens


<400> 5542
Met Arg Met Cys Asp Arg Gly Ile Gln Met Leu Ile Thr Thr Val Gly
1               5                   10                  15
Ala Phe Ala Ala Phe Ser Leu Met Thr Ile Ala Val Gly Thr Asp Tyr
            20                  25                  30
Trp Leu Tyr Ser Arg Gly Val Cys Arg Thr Lys Ser Thr Ser Asp Asn
        35                  40                  45
Glu Thr Ser Arg Lys Asn Glu Glu Val Met Thr His Ser Gly Leu Trp
    50                  55                  60
Arg Thr Cys Cys Leu Glu Gly Ala Phe Arg Gly Val Cys Lys Lys Ile
65                  70                  75                  80
Asp His Phe Pro Glu Asp Ala Asp Tyr Glu Gln Asp Thr Ala Glu Tyr
                85                  90                  95
Leu Leu Arg Ala Val Arg Ala Ser Ser Val Phe Pro Ile Leu Ser Val
            100                 105                 110
Thr Leu Leu Phe Phe Gly Gly Leu Cys Val Ala Ala Ser Glu Phe His
        115                 120                 125
Arg Ser Arg His Asn Val Ile Leu Ser Ala Gly Ile Phe Phe Val Ser
    130                 135                 140
Ala Gly Leu Ser Asn Ile Ile Gly Ile Ile Val Tyr Ile Ser Ala Asn
145                 150                 155                 160
Ala Gly Asp Pro Gly Gln Arg Asp Ser Lys Lys Ser Tyr Ser Tyr Gly
                165                 170                 175
Trp Ser Phe Tyr Phe Gly Ala Phe Ser Phe Ile Ile Ala Glu Ile Val
            180                 185                 190
Gly Val Val Ala Val His Ile Tyr Ile Glu Lys His Gln Gln Leu Arg
        195                 200                 205
Ala Lys Ser His Ser Glu Phe Leu Lys Lys Ser Thr Phe Ala Arg Leu
    210                 215                 220
Pro Pro Tyr Arg Tyr Arg Phe Arg Arg Arg Ser Ser Ser Arg Ser Thr
225                 230                 235                 240
Glu Pro Arg Ser Arg Asp Leu Ser Pro Ile Ser Lys Gly Phe His Thr
```

4723

```
                    245                    250                    255
Ile Pro Ser Thr Asp Ile Ser Met Phe Thr Leu Ser Arg Asp Pro Ser
                    260                    265                    270
Lys Ile Thr Met Gly Thr Leu Leu Asn Ser Asp Arg Asp His Ala Phe
                275                    280                    285
Leu Gln Phe His Asn Ser Thr Pro Lys Glu Phe Lys Glu Ser Leu His
            290                    295                    300
Asn Asn Pro Ala Asn Arg Arg Thr Thr Pro Val
305                    310                    315
```

```
<210> 5543
<211> 4021
<212> DNA
<213> Homo sapiens

<400> 5543
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120
cctgtgctgt gcgggctgcc cgaccacctt cccttcggtc tgatccccgc ctcaggcggc
180
cccctccctg gcatgctgct ggtgcccaag gctcaggggc tcgtggagat gctgcagacc
240
atctatgaga cagaatcctg tttctcagca gatgggatgt caggtcggga accatccttg
300
gaaatcctgc cgcggacttc tctgcacagc atccctgtga cagtggaggt gaagccggtg
360
ctgccaagag ccatgcccag ttccatgggg ggtgggggtg gaggcagccc cagccctgtg
420
gagctacggg gggctctggt gggctctgtg gaccccacac tgcgggagca gcaactgcag
480
caggagctcc tggcgctcaa gcagcagcag cagctgcaga gcagctcct gttcgctgag
540
ttccagaaac agcatgacca cctgacaagg cagcatgagg tccagctgca gaagcacctc
600
aagcagcagc aggagatgct ggcagccaag cagcagcagg agatgctggc agccaagcgg
660
cagcaggagc tggagcagca gcggcagcgg gagcagcagc ggcaggaaga gctggagaag
720
cagcggctgg agcagcagct gctcatcctg cggaacaagg agaagagcaa agagagtgcc
780
attgccagca ctgaggtaaa gctgaggctc caggaattcc tcttgtcgaa gtcaaaggag
840
cccacaccag gcggcctcaa ccattccctc ccacagcacc ccaaatgctg gggagcccac
900
catgcttctt tggaccagag ttcccctccc cagagcggcc ccctgggac gcctccctcc
960
tacaaactgc ctttgcctgg gccctacgac agtcgagacg acttcccccct ccgcaaaaca
1020
gcctctgaac ccaacttgaa agtgcgttca aggctaaaac agaaggtggc tgagcggaga
1080
agcagtcccc tcctgcgtcg caaggatggg actgttatta gcacctttaa gaagagagct
1140
```

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gttgagatca caggtgccgg gcctggggcg tcgtccgtgt gtaacagcgc acccggctcc
1200
ggccccagct ctcccaacag ctcccacagc accatcgctg agaatggctt tactggctca
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1320
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1800
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2100
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2160
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2220
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2280
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2400
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2700
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2760
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2880
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3060
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3300
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3360
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3420
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4020
a
4021
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```
<210> 5544
<211> 1141
<212> PRT
<213> Homo sapiens
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<400> 5544
Met Leu Leu Val Pro Lys Ala Gln Gly Leu Val Glu Met Leu Gln Thr
 1               5                   10                  15
Ile Tyr Glu Thr Glu Ser Cys Phe Ser Ala Asp Gly Met Ser Gly Arg
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```
                  20                      25                      30
Glu Pro Ser Leu Glu Ile Leu Pro Arg Thr Ser Leu His Ser Ile Pro
          35                      40                      45
Val Thr Val Glu Val Lys Pro Val Leu Pro Arg Ala Met Pro Ser Ser
      50                      55                      60
Met Gly Gly Gly Gly Gly Gly Ser Pro Ser Pro Val Glu Leu Arg Gly
65                      70                      75                      80
Ala Leu Val Gly Ser Val Asp Pro Thr Leu Arg Glu Gln Gln Leu Gln
              85                      90                      95
Gln Glu Leu Leu Ala Leu Lys Gln Gln Gln Leu Gln Lys Gln Leu
          100                     105                     110
Leu Phe Ala Glu Phe Gln Lys Gln His Asp His Leu Thr Arg Gln His
          115                     120                     125
Glu Val Gln Leu Gln Lys His Leu Lys Gln Gln Gln Glu Met Leu Ala
      130                     135                     140
Ala Lys Gln Gln Gln Glu Met Leu Ala Ala Lys Arg Gln Gln Glu Leu
145                     150                     155                     160
Glu Gln Gln Arg Gln Arg Glu Gln Gln Arg Gln Glu Glu Leu Glu Lys
              165                     170                     175
Gln Arg Leu Glu Gln Gln Leu Leu Ile Leu Arg Asn Lys Glu Lys Ser
          180                     185                     190
Lys Glu Ser Ala Ile Ala Ser Thr Glu Val Lys Leu Arg Leu Gln Glu
          195                     200                     205
Phe Leu Leu Ser Lys Ser Lys Glu Pro Thr Pro Gly Gly Leu Asn His
      210                     215                     220
Ser Leu Pro Gln His Pro Lys Cys Trp Gly Ala His His Ala Ser Leu
225                     230                     235                     240
Asp Gln Ser Ser Pro Pro Gln Ser Gly Pro Pro Gly Thr Pro Pro Ser
              245                     250                     255
Tyr Lys Leu Pro Leu Pro Gly Pro Tyr Asp Ser Arg Asp Asp Phe Pro
          260                     265                     270
Leu Arg Lys Thr Ala Ser Glu Pro Asn Leu Lys Val Arg Ser Arg Leu
          275                     280                     285
Lys Gln Lys Val Ala Glu Arg Arg Ser Ser Pro Leu Leu Arg Arg Lys
      290                     295                     300
Asp Gly Thr Val Ile Ser Thr Phe Lys Lys Arg Ala Val Glu Ile Thr
305                     310                     315                     320
Gly Ala Gly Pro Gly Ala Ser Ser Val Cys Asn Ser Ala Pro Gly Ser
              325                     330                     335
Gly Pro Ser Ser Pro Asn Ser Ser His Ser Thr Ile Ala Glu Asn Gly
          340                     345                     350
Phe Thr Gly Ser Val Pro Asn Ile Pro Thr Glu Met Leu Pro Gln His
          355                     360                     365
Arg Ala Leu Pro Leu Asp Ser Ser Pro Asn Gln Phe Ser Leu Tyr Thr
      370                     375                     380
Ser Pro Ser Leu Pro Asn Ile Ser Leu Gly Leu Gln Ala Thr Val Thr
385                     390                     395                     400
Val Thr Asn Ser His Leu Thr Ala Ser Pro Lys Leu Ser Thr Gln Gln
              405                     410                     415
Glu Ala Glu Arg Gln Ala Leu Gln Ser Leu Arg Gln Gly Gly Thr Leu
          420                     425                     430
Thr Gly Lys Phe Met Ser Thr Ser Ser Ile Pro Gly Cys Leu Leu Gly
          435                     440                     445
Val Ala Leu Glu Gly Asp Gly Ser Pro His Gly His Ala Ser Leu Leu
```

```
              450                   455                   460
Gln His Val Leu Leu Glu Gln Ala Arg Gln Gln Ser Thr Leu Ile
465                   470                   475                   480
Ala Val Pro Leu His Gly Gln Ser Pro Leu Val Thr Gly Glu Arg Val
              485                   490                   495
Ala Thr Ser Met Arg Thr Val Gly Lys Leu Pro Arg His Arg Pro Leu
              500                   505                   510
Ser Arg Thr Gln Ser Ser Pro Leu Pro Gln Ser Pro Gln Ala Leu Gln
              515                   520                   525
Gln Leu Val Met Gln Gln Gln His Gln Gln Phe Leu Glu Lys Gln Lys
              530                   535                   540
Gln Gln Gln Leu Gln Leu Gly Lys Ile Leu Thr Lys Thr Gly Glu Leu
545                   550                   555                   560
Pro Arg Gln Pro Thr Thr His Pro Glu Glu Thr Glu Glu Glu Leu Thr
              565                   570                   575
Glu Gln Gln Glu Val Leu Leu Gly Glu Gly Ala Leu Thr Met Pro Arg
              580                   585                   590
Glu Gly Ser Thr Glu Ser Glu Ser Thr Gln Glu Asp Leu Glu Glu Glu
              595                   600                   605
Asp Glu Glu Asp Gly Glu Glu Glu Asp Cys Ile Gln Val Lys
              610                   615                   620
Asp Glu Glu Gly Glu Ser Gly Ala Glu Glu Gly Pro Asp Leu Glu Glu
625                   630                   635                   640
Pro Gly Ala Gly Tyr Lys Lys Leu Phe Ser Asp Ala Gln Pro Leu Gln
              645                   650                   655
Pro Leu Gln Val Tyr Gln Ala Pro Leu Ser Leu Ala Thr Val Pro His
              660                   665                   670
Gln Ala Leu Gly Arg Thr Gln Ser Ser Pro Ala Ala Pro Gly Gly Met
              675                   680                   685
Lys Ser Pro Pro Asp Gln Pro Val Lys His Leu Phe Thr Thr Gly Val
              690                   695                   700
Val Tyr Asp Thr Phe Met Leu Lys His Gln Cys Met Cys Gly Asn Thr
705                   710                   715                   720
His Val His Pro Glu His Ala Gly Arg Ile Gln Ser Ile Trp Ser Arg
              725                   730                   735
Leu Gln Glu Thr Gly Leu Leu Ser Lys Cys Glu Arg Ile Arg Gly Arg
              740                   745                   750
Lys Ala Thr Leu Asp Glu Ile Gln Thr Val His Ser Glu Tyr His Thr
              755                   760                   765
Leu Leu Tyr Gly Thr Ser Pro Leu Asn Arg Gln Lys Leu Asp Ser Lys
              770                   775                   780
Lys Leu Leu Gly Pro Ile Ser Gln Lys Met Tyr Ala Val Leu Pro Cys
785                   790                   795                   800
Gly Gly Ile Gly Val Asp Ser Asp Thr Val Trp Asn Glu Met His Ser
              805                   810                   815
Ser Ser Ala Val Arg Met Ala Val Gly Cys Leu Leu Glu Leu Ala Phe
              820                   825                   830
Lys Val Ala Ala Gly Glu Leu Lys Asn Gly Phe Ala Ile Ile Arg Pro
              835                   840                   845
Pro Gly His His Ala Glu Glu Ser Thr Ala Met Gly Phe Cys Phe Phe
              850                   855                   860
Asn Ser Val Ala Ile Thr Ala Lys Leu Leu Gln Gln Lys Leu Asn Val
865                   870                   875                   880
Gly Lys Val Leu Ile Val Asp Trp Asp Ile His His Gly Asn Gly Thr
```

```
                  885                    890                    895
Gln Gln Ala Phe Tyr Asn Asp Pro Ser Val Leu Tyr Ile Ser Leu His
              900                    905                    910
Arg Tyr Asp Asn Gly Asn Phe Phe Pro Gly Ser Gly Ala Pro Glu Glu
          915                    920                    925
Val Gly Gly Gly Pro Gly Val Gly Tyr Asn Val Asn Val Ala Trp Thr
      930                    935                    940
Gly Gly Val Asp Pro Pro Ile Gly Asp Val Glu Tyr Leu Thr Ala Phe
945                    950                    955                    960
Arg Thr Val Val Met Pro Ile Ala His Glu Phe Ser Pro Asp Val Val
                  965                    970                    975
Leu Val Ser Ala Gly Phe Asp Ala Val Glu Gly His Leu Ser Pro Leu
              980                    985                    990
Gly Gly Tyr Ser Val Thr Ala Arg Cys Phe Gly His Leu Thr Arg Gln
          995                   1000                   1005
Leu Met Thr Leu Ala Gly Gly Arg Val Val Leu Ala Leu Glu Gly Gly
      1010                   1015                   1020
His Asp Leu Thr Ala Ile Cys Asp Ala Ser Glu Ala Cys Val Ser Ala
1025                   1030                   1035                   1040
Leu Leu Ser Val Glu Leu Gln Pro Leu Asp Glu Ala Val Leu Gln Gln
                  1045                   1050                   1055
Lys Pro Asn Ile Asn Ala Val Ala Thr Leu Glu Lys Val Ile Glu Ile
              1060                   1065                   1070
Gln Ser Lys His Trp Ser Cys Val Gln Lys Phe Ala Ala Gly Leu Gly
          1075                   1080                   1085
Arg Ser Leu Arg Glu Ala Gln Ala Gly Glu Thr Glu Glu Ala Glu Thr
      1090                   1095                   1100
Val Ser Ala Met Ala Leu Leu Ser Val Gly Ala Glu Gln Ala Gln Ala
1105                   1110                   1115                   1120
Ala Ala Ala Arg Glu His Ser Pro Arg Pro Ala Glu Glu Pro Met Glu
                  1125                   1130                   1135
Gln Glu Pro Ala Leu
              1140
```

<210> 5545
<211> 1932
<212> DNA
<213> Homo sapiens

<400> 5545

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nnccccagttt ctcagtgtcc ctgagcctca gttttctcat ctataaataa gaatcgcttg
60
aacctgggag gcggaggttg cgctaaccaa gatcgcgcca ttgcactcca gcctgggtga
120
caggagtgaa actctgtatc aaaaagaaat aaaaaaacga ggtcaagtag taagagaagc
180
ggtaagagtg acgggaacag gagtcattga cctcttggga gaggagacat tggaggtggt
240
gatgatttgc tgaagcagcc acacacgttc agcttgtgag acagcagtt gttaggcagg
300
ggatgaggga ggaagctggc agatctgtgc aggtgagagg tacctgtggc cttgggctca
360
tggaagtggg aggtgatggg attctaatgt gcttgggtac agtttacaaa tacaacctct
420
```

```
cttagtttgc ccaataccctc caaattcctg gggtggcaca cctgaggttc aggtggcatg
480
actgagccac agtcacacat ccccactgta ggataccacc acggttgggt taggttccag
540
cacatggcgg tcccggcctg gcctcttggt cccacctcac ctggtgacta gtgcagacca
600
ctctgttctt gcctgtttca ggcagcggag gaggagaaag agatggacct cccggactcg
660
gcctcgaggg tcttctgcgg ccgcatcctg agcatggtga acacagatga tgtcaacgcc
720
atcatcctgg cccagaagaa catgctggac cgctttgaga agaccaatga gatgctgctc
780
aacttcaaca acctgtccag tgcccgcctg cagcagatga gcgaacgctt cctgcaccac
840
acgaggaccc tagtagagat gaaacgggac ctggacagca tcttccgccg tatcaggacg
900
ctgaaaggga aactggccag gcagcaccca gaggccttca gccatatccc agaggcatcc
960
ttcctggagg aagaggatga agaccccatc ccacccagca ccacgaccac cattgccacc
1020
tcagaacaga gcacgggctc atgtgacacc agccccgaca ccgtctcgcc ctccctgagc
1080
cccggcttcg aggacctgtc ccatgtccag cctggctccc cagccatcaa cggccgcagc
1140
cagacagatg acgaggagat gacgggcgaa tagccctgct gcccggtgcc ttgagggggt
1200
ctcagggcag cagcatacaa ggtggcagcg ggtaaccctg ccttgttctg tcatccaggg
1260
ctcctttgct gccccgttct gtcacccagg gctcctaggg ggacaaggct ctctcccgag
1320
gggtgtggaa ttcctggggg ggtctttaat tctggctcct tccttcctca gaacatctct
1380
attctgcaag accctctgc catgccaggg cacgcccatt ccagctggag tcgtggggct
1440
gggcacaggg gaattttttcc agagctgagc ctgacgtctg ctctgaagaa tgcttagaag
1500
gttcccagac accagagcca gatgtccccc accaccggtc aggacctcct tgaggtgcac
1560
aagcacggtc tcctctgagt tcaccccagc ccaccccgc acccactaat tctgctttttc
1620
ctgccccttg ctccgtaaaa gtatcaaata ctttctcctt ggtatctcaa ggaggtttct
1680
gagataggta gaagtcttga cacggaggct ggccatccat tcagccctga gcgtgctgag
1740
ttctgtgttt ctctgaatag aggtgtggaa cctgaggggc cagcaggcct ctctgaaggc
1800
ctccatggag caaacggagc cacctcggga aagagtttaa tggaatattt ttgtacccga
1860
tgtttacaga tgctgttggg aagttatcaa taaaaagaca ccattactaa aaagggaaaa
1920
gtaaaaaaaa aa
1932

<210> 5546
```

```
<211> 183
<212> PRT
<213> Homo sapiens

<400> 5546
Ala Ala Glu Glu Glu Lys Glu Met Asp Leu Pro Asp Ser Ala Ser Arg
 1               5                   10                  15
Val Phe Cys Gly Arg Ile Leu Ser Met Val Asn Thr Asp Asp Val Asn
            20                  25                  30
Ala Ile Ile Leu Ala Gln Lys Asn Met Leu Asp Arg Phe Glu Lys Thr
        35                  40                  45
Asn Glu Met Leu Leu Asn Phe Asn Asn Leu Ser Ser Ala Arg Leu Gln
    50                  55                  60
Gln Met Ser Glu Arg Phe Leu His His Thr Arg Thr Leu Val Glu Met
65                  70                  75                  80
Lys Arg Asp Leu Asp Ser Ile Phe Arg Arg Ile Arg Thr Leu Lys Gly
                85                  90                  95
Lys Leu Ala Arg Gln His Pro Glu Ala Phe Ser His Ile Pro Glu Ala
            100                 105                 110
Ser Phe Leu Glu Glu Glu Asp Glu Asp Pro Ile Pro Pro Ser Thr Thr
            115                 120                 125
Thr Thr Ile Ala Thr Ser Glu Gln Ser Thr Gly Ser Cys Asp Thr Ser
        130                 135                 140
Pro Asp Thr Val Ser Pro Ser Leu Ser Pro Gly Phe Glu Asp Leu Ser
145                 150                 155                 160
His Val Gln Pro Gly Ser Pro Ala Ile Asn Gly Arg Ser Gln Thr Asp
                165                 170                 175
Asp Glu Glu Met Thr Gly Glu
                180

<210> 5547
<211> 1391
<212> DNA
<213> Homo sapiens

<400> 5547
nntgtcctac ggcggacagt ttcgtaccgg cttcttctct ggggtagggg tagcctcgcc
60
cggaagcaag gcctctggaa aaccgcggcc cctgagttgc aaacaaatgt cagatcccag
120
atattaaggc taagacatac tgcatttgta ataccaaaga aaaacgttcc tacctcaaaa
180
cgtgaaactt acacagagga tttttattaaa aagcagattg aagagttcaa cataggaaag
240
agacatttag ccaacatgat gggagaagat ccagaaactt tcactcaaga agatattgac
300
agagctattg cttacctttt cccaagtggt ttgtttgaga aacgagccag gccagtaatg
360
aagcatcctg aacagatttt tccaagacaa agagcaatcc agtggggaga agatggccgt
420
ccatttcact atctcttcta tactggcaaa cagtcatact attcattaat gcatgatgta
480
nntatggaat gttactcaat ttagaaanaa catcaaagtc acttgcaagc caaaagtctg
540
```

```
cttccagaaa aaactgtaac cagagacgtg attggcagca gatggctgat taaggaggaa
600
ctagaagaaa tgttagtgga aaaactgtca gatctagatt atatgcagtt cattcggctg
660
ctagaaaagt tattgacatc gcagtgtggt gctgctgagg aagaatttgt gcagaggttt
720
cgaagaagtg taactcttga atcaaaaaaa cagctgattg aacctgtaca gtatgatgag
780
caaggaatgg cctttagcaa aagcgaaggt aaaagaaaga ctgcaaaagc agaagcaatt
840
gtttataaac atggaagtgg aagaataaaa gtaaatggaa ttgattacca gctttacttc
900
ccgatcacac aggacagaga acagctgatg ttccctttcc actttgttga ccggctggga
960
aagcacgacg tgacctgcac agtctcaggg ggcgggaggt cagcgcaggc tggagcaata
1020
cgactggcaa tggcaaaagc cttgtgcagc tttgtcaccg aggacgaggt cgagtggatg
1080
agacaagctg gactacttac tactgatcca cgtgtgaggg aacggaagaa gccaggccaa
1140
gagggagccc gcagaaagtt tacgtggaag aaacgctaag ggtttgctcc caggaaagga
1200
gaggaagagc tatatatatg tgccgacatg tggcagacac acagtaaata atggctgacc
1260
agcatgaggg cagtactgtc agaaatttct ttgagctgtg agatggattt atttttaaat
1320
gctactttgt aaaggtgacc tttaaaaaat aaaaggaaaa taaagaatgt tagtttcaaa
1380
aaaaaaaaaa a
1391
```

```
<210>  5548
<211>  167
<212>  PRT
<213>  Homo sapiens
```

```
<400>  5548
Xaa Val Leu Arg Arg Thr Val Ser Tyr Arg Leu Leu Leu Trp Gly Arg
 1               5                  10                  15
Gly Ser Leu Ala Arg Lys Gln Gly Leu Trp Lys Thr Ala Ala Pro Glu
            20                  25                  30
Leu Gln Thr Asn Val Arg Ser Gln Ile Leu Arg Leu Arg His Thr Ala
        35                  40                  45
Phe Val Ile Pro Lys Lys Asn Val Pro Thr Ser Lys Arg Glu Thr Tyr
     50                  55                  60
Thr Glu Asp Phe Ile Lys Lys Gln Ile Glu Glu Phe Asn Ile Gly Lys
65                  70                  75                  80
Arg His Leu Ala Asn Met Met Gly Glu Asp Pro Glu Thr Phe Thr Gln
                85                  90                  95
Glu Asp Ile Asp Arg Ala Ile Ala Tyr Leu Phe Pro Ser Gly Leu Phe
               100                 105                 110
Glu Lys Arg Ala Arg Pro Val Met Lys His Pro Glu Gln Ile Phe Pro
           115                 120                 125
Arg Gln Arg Ala Ile Gln Trp Gly Glu Asp Gly Arg Pro Phe His Tyr
```

```
        130                    135                    140
Leu Phe Tyr Thr Gly Lys Gln Ser Tyr Tyr Ser Leu Met His Asp Val
145                    150                    155                    160
Xaa Met Glu Cys Tyr Ser Ile
                    165
```

`<210> 5549`
`<211> 1865`
`<212> DNA`
`<213> Homo sapiens`

`<400> 5549`

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gcgtcaccga gggccgcgca gactgcgacg gatacaggga gggcaagggt ttccttttgg
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120
agatttagga ccctgaggag tcttttttcac ccgtttcccg tcactcgctc aggcgcgccg
180
agggcagtcc ttgtggggtc ctcgtggcca gccaagatgg ttgcccccgc agtgaaggtt
240
gcccgaggat ggtcgggcct ggcgttgggc gtgcggcggg ctgtcttgca gcttccaggg
300
ctaactcagg tgagatggag ccgctatagt cctgaattca aggatccctt gattgacaag
360
gaatattatc gcaagccagt ggaggagcta actgaggagg agaaatatgt tcgggagctc
420
aagaagactc agctcatcaa agctgctcca gcagggaaaa caagttctgt gtttgaagac
480
ccagtcatca gtaaattcac caacatgatg atgataggag aaacaaagt actggccaga
540
tccctcatga ttcagactct ggaagctgtg aaaaggaagc agtttgagaa gtaccatgcc
600
gcttctgcag aggaacaggc aaccatcgaa cgcaacccct acaccatctt ccatcaagca
660
ctgaaaaact gtgagcctat gattgggctg gtacccatcc tcaagggagg ccgtttctac
720
caggtccctg tacccctacc cgaccggcgt cgccgcttcc tagccatgaa gtggatgatc
780
actgagtgcc gggataaaaa gcaccagcgg acactgatgc cggagaagct gtcacacaag
840
ctgctggagg ctttccataa ccagggcccc gtgatcaaga ggaagcatga cttgcacaag
900
atggcagagg ccaaccgtgc cctggcccac taccgctggt ggtagagtct ccaggaggag
960
cccagggccc tctgccgcaa gaaacagtgt gagctactgc cacgctgaaa actacctgtg
1020
ggttaaggat gtagttcctt tgtaagggtg ggcaggcctc gtaagaaaga tgtagcagca
1080
tattcactat ccgttaatcc ttctttcttt gaggctggaa cttgctctct ctgcccctat
1140
ttccttgtaa agagggagca cattgacttg ggaatttcct ccaggaaact cagggctgtt
1200
ttctcttccc ttaggttggg gcggacctttt ggacatataa aggaagcagt tttagtatca
1260
```

```
gaaaagattt attagaaaat tctcacgctg aactggtgta gcatgtggtg cagcattcag
1320
tgaaactggc tggaggaaat aggcttgttt ccagagttgt ccttatacaa aatgtataaa
1380
aagcagtttc tggtgtgact tgtgctctgc ctccacccct tgacatccca aaatatccca
1440
ccagtggcta tgcttaccca ttttacagat gggtaaactg aggcaccaag gtagtagttg
1500
cactaatggt tacacagtgc agtggctctt gggagttgcc cttctctgcc tggccgtggt
1560
gggttgtggt ggggaaaggg gctcagggca ggaccacggc ataagtggga aacatctcac
1620
caggagatgg gaaagtctag aagggaagac actcaaagtc tggaagggaa aagtctttgg
1680
gtgaggcaga gactccactg ccagctttag aggtgggtag aagaaaggcc agtgctggtg
1740
aggaagccct gatctggagg cctagtcgga gacttcgctg tagtaatact tgtgggcagc
1800
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1860
gggcc
1865


<210> 5550
<211> 242
<212> PRT
<213> Homo sapiens

<400> 5550
Met Val Ala Pro Ala Val Lys Val Ala Arg Gly Trp Ser Gly Leu Ala
1               5                   10                  15
Leu Gly Val Arg Arg Ala Val Leu Gln Leu Pro Gly Leu Thr Gln Val
            20                  25                  30
Arg Trp Ser Arg Tyr Ser Pro Glu Phe Lys Asp Pro Leu Ile Asp Lys
            35                  40                  45
Glu Tyr Tyr Arg Lys Pro Val Glu Glu Leu Thr Glu Glu Glu Lys Tyr
        50                  55                  60
Val Arg Glu Leu Lys Lys Thr Gln Leu Ile Lys Ala Ala Pro Ala Gly
65                  70                  75                  80
Lys Thr Ser Ser Val Phe Glu Asp Pro Val Ile Ser Lys Phe Thr Asn
                85                  90                  95
Met Met Met Ile Gly Gly Asn Lys Val Leu Ala Arg Ser Leu Met Ile
                100                 105                 110
Gln Thr Leu Glu Ala Val Lys Arg Lys Gln Phe Glu Lys Tyr His Ala
            115                 120                 125
Ala Ser Ala Glu Glu Gln Ala Thr Ile Glu Arg Asn Pro Tyr Thr Ile
        130                 135                 140
Phe His Gln Ala Leu Lys Asn Cys Glu Pro Met Ile Gly Leu Val Pro
145                 150                 155                 160
Ile Leu Lys Gly Gly Arg Phe Tyr Gln Val Pro Val Pro Leu Pro Asp
                165                 170                 175
Arg Arg Arg Arg Phe Leu Ala Met Lys Trp Met Ile Thr Glu Cys Arg
                180                 185                 190
Asp Lys Lys His Gln Arg Thr Leu Met Pro Glu Lys Leu Ser His Lys
```

```
        195                    200                    205
Leu Leu Glu Ala Phe His Asn Gln Gly Pro Val Ile Lys Arg Lys His
     210                    215                    220
Asp Leu His Lys Met Ala Glu Ala Asn Arg Ala Leu Ala His Tyr Arg
225                    230                    235                    240
Trp Trp
```

<210> 5551
<211> 1689
<212> DNA
<213> Homo sapiens

<400> 5551
```
ttttaaatta cattatttat tttttagatc atccctctta gtcctgcatg cattgttagc
60
acaaaaagtt gaacttgatc acaacttcct ttgaagagag agtaggtaca caatgaccat
120
ctgaagagtt tctccacgga gggaccaaga attccagacg ctggtaacac tgtcagtaac
180
ctacacaact ttcaatacaa aaaaatttac caaatatcct gtttaatgta aacaaggcag
240
gaggcaaaac agagtattac agtaacacta ttttacaggg cccagaaaat gtgattatct
300
accatgtttt aacacataaa gtgtcacaat gacatgcata tttgatttac tacataaccc
360
aaaatataat taccatatag tgtggtttta gcacttcact gtaacgtctt ctgtcaatac
420
tgatggactt cataattaaa tggcaattgt atgttaatgc aataatttat gaaaacatta
480
ccatgaattt atgaagtaat tccataattt gtgccctgta aaattaagtg taacaatgtt
540
tacactagca acagtgtaag cgagctaaga attttggtcc ttatatatat acatatatac
600
atatatacac acacaataat gtacaattaa accaaaaagc tatgaatcca ctcacagctt
660
ccatattgca caaacagata cattacgaga aagttacata gttataaggt gagtactata
720
tggcaatagg ctaagacaaa tctgagttct atcaagtaaa gaatgcggct cataactaaa
780
aacaaatcca aagactatat tgttagaaag ttttaaaaaa tgtgcatatt tattgataca
840
aatgtgaagc aaggctgaaa ttcactttgg aacttgctat ggcaatcaat tgttatgacg
900
gtgctttcca ctcagcatag tgcattttag ttactgtttt tgcaagtact gagtaacaga
960
aatattcagc tgtcaacaga aggtaagaaa aactggtgat gcagtacaat gtttcactaa
1020
caaattgaac tcactgtgag agcttctact ggctctaggt ctgaaatagg gccttcaggt
1080
tccaaaccaa gtaaccgctt tctgactaac agaagcttgg gagtaaagtc ttgaatacgc
1140
tggattcgaa gcataaggtc tccaacaacc ctgacaatta cagagaagag agatctacag
1200
```

```
ccaggagcga ggttcacgta aggatccaaa aggtactcgt ggatgtgtgg atgagggaag
1260
agagaaagtc tagataacac tgaggttact tgtaagttta catcatatgg ctgatcaaga
1320
attcttccca ttctgtcgaa cagcactttc aaaaaatgac cttcaaagaa agcagcttct
1380
aaattgcact tttccaatgc ttttggagac ccaggccact cccatcttaa gcagatagca
1440
cagtagtctc ggaactgcct atgagcgtct cggaggtaag tgtcatatcc tgtgccctca
1500
acatggtagg aggattttgc gtcatccggt accagacaga gaaaactatt tacaatttta
1560
tgaacttcag tttttccatc attttttgggg tggtctggag tagcaggagg tgaagaacta
1620
agccactctt ggtttggcaa agtgtttct ggtgaaatgt cagtaaataa tggatcttct
1680
tccagatct
1689


<210> 5552
<211> 104
<212> PRT
<213> Homo sapiens

<400> 5552
Met Gly Arg Ile Leu Asp Gln Pro Tyr Asp Val Asn Leu Gln Val Thr
1               5                   10                  15
Ser Val Leu Ser Arg Leu Ser Leu Phe Pro His Pro His Ile His Glu
            20                  25                  30
Tyr Leu Leu Asp Pro Tyr Val Asn Leu Ala Pro Gly Cys Arg Ser Leu
        35                  40                  45
Phe Ser Val Ile Val Arg Val Val Gly Asp Leu Met Leu Arg Ile Gln
    50                  55                  60
Arg Ile Gln Asp Phe Thr Pro Lys Leu Leu Leu Val Arg Lys Arg Leu
65                  70                  75                  80
Leu Gly Leu Glu Pro Glu Gly Pro Ile Ser Asp Leu Glu Pro Val Glu
                85                  90                  95
Ala Leu Thr Val Ser Ser Ile Cys
                100


<210> 5553
<211> 274
<212> DNA
<213> Homo sapiens

<400> 5553
ccatggatgg aggccagggt acttcaggac ctctgaagac agcaaagcag tttctggcaa
60
tctctgagga ggtggcattt gttccagaaa aaaggacccc ccaacccat cccacagcct
120
caccagaccc taaagtcaga ataaccggcc cagctacagc ccctgcggtc gtgcttagcc
180
actacagagg ctgctatttc cccagccagt gtccctggca gccttggaaa ccaatgaagc
240
```

```
aggctctgac acaggaatcc ctctgcatct ttat
274
```

```
<210> 5554
<211> 90
<212> PRT
<213> Homo sapiens
```

```
<400> 5554
Met Asp Gly Gly Gln Gly Thr Ser Gly Pro Leu Lys Thr Ala Lys Gln
1               5                   10                  15
Phe Leu Ala Ile Ser Glu Glu Val Ala Phe Val Pro Glu Lys Arg Thr
            20                  25                  30
Pro Gln Pro His Pro Thr Ala Ser Pro Asp Pro Lys Val Arg Ile Thr
        35                  40                  45
Gly Pro Ala Thr Ala Pro Ala Val Val Leu Ser His Tyr Arg Gly Cys
    50                  55                  60
Tyr Phe Pro Ser Gln Cys Pro Trp Gln Pro Trp Lys Pro Met Lys Gln
65                  70                  75                  80
Ala Leu Thr Gln Glu Ser Leu Cys Ile Phe
                85                  90
```

```
<210> 5555
<211> 414
<212> DNA
<213> Homo sapiens
```

```
<400> 5555
acgcgtgtgt gcacgcaggc atgggctttc agggctttca gagcaggggc cgacggcatt
60
ctccctcggg ccagcggtca gatgtggggt tcaggaaaca aggcccaggt ggggatgaat
120
cacagggctg tgattctaga agggacagct gtgaggggcc gggacaggct aagctggagg
180
actcaccaga cttgcggggg tcaacacgct ccagatgtct cctagacctc tcacactcag
240
cacatccaaa cctgaaccca gcacctggcc ccacacctgt cccctggcta gagacggggg
300
cctcagccca gctgttcccc ttctcccaca gcctctcagc tgcgtgtcgg gtccattctg
360
catcttgaac atctctccca gtggattccc ttctgctgtc ctggtccagg atcc
414
```

```
<210> 5556
<211> 115
<212> PRT
<213> Homo sapiens
```

```
<400> 5556
Met Gly Phe Gln Gly Phe Gln Ser Arg Gly Arg Arg His Ser Pro Ser
1               5                   10                  15
Gly Gln Arg Ser Asp Val Gly Phe Arg Lys Gln Gly Pro Gly Gly Asp
            20                  25                  30
Glu Ser Gln Gly Cys Asp Ser Arg Arg Asp Ser Cys Glu Gly Pro Gly
```

```
            35                    40                    45
Gln Ala Lys Leu Glu Asp Ser Pro Asp Leu Arg Gly Ser Thr Arg Ser
       50                    55                    60
Arg Cys Leu Leu Asp Leu Ser His Ser Ala His Pro Asn Leu Asn Pro
65                    70                    75                    80
Ala Pro Gly Pro Thr Pro Val Pro Trp Leu Glu Thr Gly Ala Ser Ala
                   85                    90                    95
Gln Leu Phe Pro Phe Ser His Ser Leu Ser Ala Ala Cys Arg Val His
               100                   105                   110
Ser Ala Ser
       115


<210> 5557
<211> 1970
<212> DNA
<213> Homo sapiens

<400> 5557
nnccgcggct gggccaaggc ccgcgatggt gatctgctgt gcggccgtga actgctccaa
60
ccggcaggga aagggcgaga agcgcgccgt ctccttccac aggttccccc taaaggactc
120
aaaacgtcta atccaatggt taaaagctgt tcagagggat aactggactc ccactaagta
180
ttcatttctc tgtagtgagc atttcaccaa agacagcttc tccaagaggc tggaggacca
240
gcatcgcctg ctgaagccca cggccgtgcc atccatcttc acctgaccg agaagaagag
300
gggggctgga ggccatggcc gcacccggag aaaagatgcc agcaagggca caggggggtgt
360
gaggggacac tcgagtgccg ccaccgcgag aggagctgca ggttggtcac cgtcctcgag
420
tggaaacccg atggccaagc cagagtcccg caggttgaag caagctgctc tgcaaggtga
480
agccacaccc agggcggccc aggagcaggt ccgaaggagc aggcccagca agctcctgga
540
acggactcca ggagatggac tggccaccat ggtcgaggca gtcagggaaa agcagaagcg
600
tctgccacag atgctggcga tgagagcgcc acttcctcca tcgaaggggg cgtgacagat
660
aagagtggca tttctatgga tgactttacg cccccaggat ctggggcgtg caaatttatc
720
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900
cggcagaagc cttcccagag cccctctgcc cctcctgccg acgtcacccc aaagccagcc
960
acggaagccg tgcagagcga gcacagcgac gccagcccca tgtccatcaa cgaggtcatc
1020
ctgtcggcgt cagggggcctg caagctcatc gactcactgc actcctactg cttctcctcc
1080
```

```
cggcagaaca agagccaggt gtgctgcctg cgggagcagg tggagaagaa gaacggcgag
1140
ctgaagagcc tgcggcagag ggtcagccgc tccgacagcc aggtgcggaa gctacaggag
1200
aagctggatg agctgaggag agtgagcgtc ccctatccaa gtagcctgct gtcgcccagc
1260
cgcgagcccc ccaagatgaa cccagtggtg gagccactgt cctggatgct gggcacctgg
1320
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1380
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1440
ccggacacgc gcaagccgat gcacagagag tgtggcttca ttcgcctcaa gcccgacacc
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1680
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1800
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1860
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1920
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1970
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<210> 5558
<211> 360
<212> PRT
<213> Homo sapiens
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<400> 5558
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1               5                   10                  15
Ser Leu His Ser Tyr Ser Phe Ser Ser Lys His Thr Arg Glu Arg Pro
            20                  25                  30
Ser Val Pro Arg Glu Pro Ile Asp Arg Lys Arg Leu Lys Lys Asp Val
            35                  40                  45
Glu Pro Ser Cys Ser Gly Ser Ser Leu Gly Pro Asp Lys Gly Leu Ala
        50                  55                  60
Gln Ser Pro Pro Ser Ser Ser Leu Thr Ala Thr Arg Gln Lys Pro Ser
65                  70                  75                  80
Gln Ser Pro Ser Ala Pro Pro Ala Asp Val Thr Pro Lys Pro Ala Thr
                85                  90                  95
Glu Ala Val Gln Ser Glu His Ser Asp Ala Ser Pro Met Ser Ile Asn
            100                 105                 110
Glu Val Ile Leu Ser Ala Ser Gly Ala Cys Lys Leu Ile Asp Ser Leu
            115                 120                 125
His Ser Tyr Cys Phe Ser Ser Arg Gln Asn Lys Ser Gln Val Cys Cys
```

4739

```
          130                     135                     140
Leu Arg Glu Gln Val Glu Lys Lys Asn Gly Glu Leu Lys Ser Leu Arg
145                     150                     155                     160
Gln Arg Val Ser Arg Ser Asp Ser Gln Val Arg Lys Leu Gln Glu Lys
                165                     170                     175
Leu Asp Glu Leu Arg Arg Val Ser Val Pro Tyr Pro Ser Ser Leu Leu
                180                     185                     190
Ser Pro Ser Arg Glu Pro Pro Lys Met Asn Pro Val Val Glu Pro Leu
        195                     200                     205
Ser Trp Met Leu Gly Thr Trp Leu Ser Asp Pro Pro Gly Ala Gly Thr
        210                     215                     220
Tyr Pro Thr Leu Gln Pro Phe Gln Tyr Leu Glu Glu Val His Ile Ser
225                     230                     235                     240
His Val Gly Gln Pro Met Leu Asn Phe Ser Phe Asn Ser Phe His Pro
                245                     250                     255
Asp Thr Arg Lys Pro Met His Arg Glu Cys Gly Phe Ile Arg Leu Lys
                260                     265                     270
Pro Asp Thr Asn Lys Val Ala Phe Val Ser Ala Gln Asn Thr Gly Val
                275                     280                     285
Val Glu Val Glu Glu Gly Glu Val Asn Gly Gln Glu Leu Cys Ile Ala
        290                     295                     300
Ser His Ser Ile Ala Arg Ile Ser Phe Ala Lys Glu Pro His Val Glu
305                     310                     315                     320
Gln Ile Thr Arg Lys Phe Arg Leu Asn Ser Glu Gly Lys Leu Glu Gln
                325                     330                     335
Thr Val Ser Met Ala Thr Thr Thr Gln Pro Met Thr Gln His Leu His
                340                     345                     350
Val Thr Tyr Lys Lys Val Thr Pro
        355                     360
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<210> 5559
<211> 3866
<212> DNA
<213> Homo sapiens

<400> 5559
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120
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180
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240
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300
aagaaatact ctcatcacag aaacattgca acatattatg gtgctttcat caaaaagagc
360
cctccaggac atgatgacca actctggctt gttatggagt tctgtggggc tgggtccatt
420
acagaccttg tgaagaacac caaagggaac acactcaaag aagactggat cgcttacatc
480
tccagagaaa tcctgagggg actggcacat cttcacattc atcatgtgat tcaccgggat
540
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600
gtgagtgctc agctggacag gactgtgggg cggagaaata cgttcatagg cactccctac
660
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720
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780
tgtgacatgc atccaatgag agcactgttt ctcattccca gaaaccctcc tccccggctc
840
aagtccaaga agtggtcgaa gaagttcatt gacttcattg acacatgtct catcaagact
900
tacatgcagc ggcccaccac ggagcagctt ttgaagtttc cttttataag ggatcagccc
960
acggagcggc aggtccgcat ccagcttaag gatcatatag atcgtaccag gaagaagcgg
1020
ggtgagaaag aggagacaga atatgagtac agcggcagcg aggaggaaga tgacagccat
1080
ggagaggaag gagagccaag ttccatcatg aacgtgcctg gagagtctac tcttcgccga
1140
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1200
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1260
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1320
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1380
aagaggcgtc tagaggagtt ggagagaagg cgcaaagaag aagaggagag gagacgggca
1440
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gagcagcggc acttggaagt ccttcagcag cagctgctcc aggagcaggc catgttactg
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1620
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1680
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1740
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1800
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1860
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1920
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1980
cgcctggaaa atgcagtgaa aaaacctgaa gataaaaagg aagttttcag acccctcaag
2040
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2100
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2160
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2340
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2520
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tggttaagaa ataaaatact tcacaatgat ccagaagttg agaagaagca gggatggaca
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2940
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3000
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3120
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3480
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3540
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3660
agctgcaccg agggcaacca ggacagctgt gtgtgcagac ctcatgtgtt gggttctctc
3720
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3780

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3866


<210> 5560
<211> 1165
<212> PRT
<213> Homo sapiens


<400> 5560
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Met Ala Asn Asp Ser Pro Ala Lys Ser Leu Val Asp Ile Asp Leu Ser
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Ser Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Val Val Gly
            20                  25                  30
Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
            35                  40                  45
Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Glu Asp Glu Glu Glu
        50                  55                  60
Glu Ile Lys Leu Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65                  70                  75                  80
Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Ser Pro Pro Gly
                85                  90                  95
His Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
            100                 105                 110
Ile Thr Asp Leu Val Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Asp
            115                 120                 125
Trp Ile Ala Tyr Ile Ser Arg Glu Ile Leu Arg Gly Leu Ala His Leu
        130                 135                 140
His Ile His His Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145                 150                 155                 160
Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
                165                 170                 175
Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
            180                 185                 190
Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
            195                 200                 205
Thr Tyr Asp Tyr Arg Ser Asp Leu Trp Ser Cys Gly Ile Thr Ala Ile
        210                 215                 220
Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225                 230                 235                 240
Ala Leu Phe Leu Ile Pro Arg Asn Pro Pro Pro Arg Leu Lys Ser Lys
                245                 250                 255
Lys Trp Ser Lys Lys Phe Ile Asp Phe Ile Asp Thr Cys Leu Ile Lys
            260                 265                 270
Thr Tyr Met Gln Arg Pro Thr Thr Glu Gln Leu Leu Lys Phe Pro Phe
            275                 280                 285
Ile Arg Asp Gln Pro Thr Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
        290                 295                 300
His Ile Asp Arg Thr Arg Lys Lys Arg Gly Glu Lys Glu Glu Thr Glu
305                 310                 315                 320
Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Asp Asp Ser His Gly Glu Glu
                325                 330                 335
Gly Glu Pro Ser Ser Ile Met Asn Val Pro Gly Glu Ser Thr Leu Arg
```

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                     340                      345                      350
Arg Asp Phe Leu Arg Leu Gln Gln Glu Asn Lys Glu Arg Ser Glu Ala
             355                      360                      365
Leu Arg Arg Gln Gln Leu Leu Gln Glu Gln Gln Leu Arg Glu Gln Glu
     370                      375                      380
Glu Tyr Lys Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Gln
385                      390                      395                      400
Gln Lys Glu Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu Arg
                     405                      410                      415
Glu Ala Arg Arg Gln Gln Glu Arg Glu Gln Arg Arg Arg Glu Gln Glu
             420                      425                      430
Glu Lys Arg Arg Leu Glu Glu Leu Glu Arg Arg Arg Lys Glu Glu Glu
             435                      440                      445
Glu Arg Arg Arg Ala Glu Glu Glu Lys Arg Arg Val Glu Arg Glu Gln
     450                      455                      460
Glu Tyr Ile Arg Arg Gln Leu Glu Glu Glu Gln Arg His Leu Glu Val
465                      470                      475                      480
Leu Gln Gln Gln Leu Leu Gln Glu Gln Ala Met Leu Leu His Asp His
             485                      490                      495
Arg Arg Pro His Pro Gln His Ser Gln Gln Pro Pro Pro Pro Gln Gln
             500                      505                      510
Glu Arg Ser Lys Pro Ser Phe His Ala Pro Glu Pro Lys Ala His Tyr
             515                      520                      525
Glu Pro Ala Asp Arg Ala Arg Glu Val Pro Val Arg Thr Thr Ser Arg
     530                      535                      540
Ser Pro Val Leu Ser Arg Arg Asp Ser Pro Leu Gln Gly Ser Gly Gln
545                      550                      555                      560
Gln Asn Ser Gln Ala Gly Gln Arg Asn Ser Thr Ser Ser Ile Glu Pro
             565                      570                      575
Arg Leu Leu Trp Glu Arg Val Glu Lys Leu Val Pro Arg Pro Gly Ser
             580                      585                      590
Gly Ser Ser Ser Gly Ser Ser Asn Ser Gly Ser Gln Pro Gly Ser His
             595                      600                      605
Pro Gly Ser Gln Ser Gly Ser Gly Glu Arg Phe Arg Val Arg Ser Ser
     610                      615                      620
Ser Lys Ser Glu Gly Ser Pro Ser Gln Arg Leu Glu Asn Ala Val Lys
625                      630                      635                      640
Lys Pro Glu Asp Lys Lys Glu Val Phe Arg Pro Leu Lys Pro Ala Gly
             645                      650                      655
Glu Val Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg Ala Val Glu Asp
             660                      665                      670
Val Arg Pro Pro His Lys Val Thr Asp Tyr Ser Ser Ser Ser Glu Glu
     675                      680                      685
Ser Gly Thr Thr Asp Glu Glu Asp Asp Asp Val Glu Gln Glu Gly Ala
     690                      695                      700
Asp Glu Ser Thr Ser Gly Pro Glu Asp Thr Arg Ala Ala Ser Ser Leu
705                      710                      715                      720
Asn Leu Ser Asn Gly Glu Thr Glu Ser Val Lys Thr Met Ile Val His
             725                      730                      735
Asp Asp Val Glu Ser Glu Pro Ala Met Thr Pro Ser Lys Glu Gly Thr
             740                      745                      750
Leu Ile Val Arg Gln Thr Gln Ser Ala Ser Ser Thr Leu Gln Lys His
     755                      760                      765
Lys Ser Ser Ser Ser Phe Thr Pro Phe Ile Asp Pro Arg Leu Leu Gln
```

```
          770                      775                      780
Ile Ser Pro Ser Ser Gly Thr Thr Val Thr Ser Val Val Gly Phe Ser
785                      790                      795                      800
Cys Asp Gly Met Arg Pro Glu Ala Ile Arg Gln Asp Pro Thr Arg Lys
              805                      810                      815
Gly Ser Val Val Asn Val Asn Pro Thr Asn Thr Arg Pro Gln Ser Asp
              820                      825                      830
Thr Pro Glu Ile Arg Lys Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu
          835                      840                      845
Cys Ala Ala Leu Trp Gly Val Asn Leu Leu Val Gly Thr Glu Ser Gly
      850                      855                      860
Leu Met Leu Leu Asp Arg Ser Gly Gln Gly Lys Val Tyr Pro Leu Ile
865                      870                      875                      880
Asn Arg Arg Arg Phe Gln Gln Met Asp Val Leu Glu Gly Leu Asn Val
              885                      890                      895
Leu Val Thr Ile Ser Gly Lys Lys Asp Lys Leu Arg Val Tyr Tyr Leu
              900                      905                      910
Ser Trp Leu Arg Asn Lys Ile Leu His Asn Asp Pro Glu Val Glu Lys
          915                      920                      925
Lys Gln Gly Trp Thr Thr Val Gly Asp Leu Glu Gly Cys Val His Tyr
      930                      935                      940
Lys Val Val Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala Leu Lys
945                      950                      955                      960
Ser Ser Val Glu Val Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe
              965                      970                      975
Met Ala Phe Lys Ser Phe Gly Glu Leu Val His Lys Pro Leu Leu Val
              980                      985                      990
Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile Tyr Gly Ser
          995                      1000                     1005
Cys Ala Gly Phe His Ala Val Asp Val Asp Ser Gly Ser Val Tyr Asp
      1010                     1015                     1020
Ile Tyr Leu Pro Thr His Val Arg Lys Asn Pro His Ser Met Ile Gln
1025                     1030                     1035                     1040
Cys Ser Ile Lys Pro His Ala Ile Ile Ile Leu Pro Asn Thr Asp Gly
              1045                     1050                     1055
Met Glu Leu Leu Val Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr
          1060                     1065                     1070
Tyr Gly Arg Ile Thr Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro
          1075                     1080                     1085
Thr Ser Val Ala Tyr Ile Arg Ser Asn Gln Thr Met Gly Trp Gly Glu
          1090                     1095                     1100
Lys Ala Ile Glu Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val
1105                     1110                     1115                     1120
Phe Met His Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg Asn
              1125                     1130                     1135
Asp Lys Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln Val
          1140                     1145                     1150
Tyr Phe Met Thr Leu Gly Arg Thr Ser Leu Leu Ser Trp
          1155                     1160                     1165


<210> 5561
<211> 2089
<212> DNA
<213> Homo sapiens
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<400> 5561

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ccgcacgctg gcgcccagct cccggcgcgg aggccgctgt aagtttcgct ttccattcag
120

tgganaacga aagctgggcg gggtgccacg agcgcggggc cagaccaagg cgggcccgga
180

gcggaacttc ggtcccagct cggtccccgg ctcagtcccg acgtggaact cagcagcgga
240

ggctggacgc ttgcatggcg cttgagagat tccatcgtgc ctggctcaca taagcgcttc
300

ctggaagtga agtcgtgctg tcctgaacgc gggccaggca gctgcggcct gggggttttg
360

gagtgatcac gaatgagcaa ggcgtttggg ctcctgaggc aaatctgtca gtccatcctg
420

gctgagtcct cgcagtcccc ggcagatctt gaagaaaaga aggaagaaga cagcaacatg
480

aagagagagc agcccagaga gcgtcccagg gcctgggact accctcatgg cctggttggt
540

ttacacaaca ttggacagac ctgctgcctt aactccttga ttcaggtgtt cgtaatgaat
600

gtggacttca ccaggatatt gaagaggatc acggtgccca ggggagctga cgagcagagg
660

agaagcgtcc ctttccagat gcttctgctg ctggagaaga tgcaggacag ccggcagaaa
720

gcagtgcggc ccctggagct ggcctactgc ctgcagaagt gcaacgtgcc cttgtttgtc
780

caacatgatg ctgcccaact gtacctcaaa ctctggaacc tgattaagga ccagatcact
840

gatgtgcact tggtggagag actgcaggcc ctgtatacga tccgggtgaa ggactccttg
900

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960

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1020

ttccagccca gggagttatc aagcaaaagc aagtgcttct gtgagaactg tgggaagaag
1080

acccgtggga aacaggtctt gaagctgacc catttgcccc agaccctgac aatccacctc
1140

atgcgattct ccatcaggaa ttcacagacg agaaagatct gccactccct gtacttcccc
1200

cagagcttgg atttcagcca gatccttcca atgaagcgag agtcttgtga tgctgaggag
1260

cagtctggag ggcagtatga gctttttgct gtgattgcgc acgtgggaat ggcagactcc
1320

ggtcattact gtgtctacat ccggaatgct gtggatggaa aatggttctg cttcaatgac
1380

tccaatattt gcttggtgtc ctgggaagac atccagtgta cctacggaaa tcctaactac
1440

cactggcagg aaactgcata tcttctggtt tacatgaaga tggagtgcta atggaaatgc
1500

ccaaaacctt cagagattga cacgctgtca ttttccattt ccgttcctgg atctacggag
1560

4746

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1620
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1680
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1920
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1980
attcatttat tcagcaaata tttattgatc atctcttctc cataagatag tgtgataaac
2040
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2089
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<210> 5562
<211> 372
<212> PRT
<213> Homo sapiens
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<400> 5562
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            20                  25                  30
Asp Ser Asn Met Lys Arg Glu Gln Pro Arg Glu Arg Pro Arg Ala Trp
        35                  40                  45
Asp Tyr Pro His Gly Leu Val Gly Leu His Asn Ile Gly Gln Thr Cys
    50                  55                  60
Cys Leu Asn Ser Leu Ile Gln Val Phe Val Met Asn Val Asp Phe Thr
65                  70                  75                  80
Arg Ile Leu Lys Arg Ile Thr Val Pro Arg Gly Ala Asp Glu Gln Arg
                85                  90                  95
Arg Ser Val Pro Phe Gln Met Leu Leu Leu Leu Glu Lys Met Gln Asp
            100                 105                 110
Ser Arg Gln Lys Ala Val Arg Pro Leu Glu Leu Ala Tyr Cys Leu Gln
            115                 120                 125
Lys Cys Asn Val Pro Leu Phe Val Gln His Asp Ala Ala Gln Leu Tyr
        130                 135                 140
Leu Lys Leu Trp Asn Leu Ile Lys Asp Gln Ile Thr Asp Val His Leu
145                 150                 155                 160
Val Glu Arg Leu Gln Ala Leu Tyr Thr Ile Arg Val Lys Asp Ser Leu
                165                 170                 175
Ile Cys Val Asp Cys Ala Met Glu Ser Ser Arg Asn Ser Ser Met Leu
            180                 185                 190
Thr Leu Pro Leu Ser Leu Phe Asp Val Asp Ser Lys Pro Leu Lys Thr
            195                 200                 205
Leu Glu Asp Ala Leu His Cys Phe Phe Gln Pro Arg Glu Leu Ser Ser
        210                 215                 220
Lys Ser Lys Cys Phe Cys Glu Asn Cys Gly Lys Lys Thr Arg Gly Lys
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4747

```
225                     230                     235                     240
Gln Val Leu Lys Leu Thr His Leu Pro Gln Thr Leu Thr Ile His Leu
                245                     250                     255
Met Arg Phe Ser Ile Arg Asn Ser Gln Thr Arg Lys Ile Cys His Ser
                260                     265                     270
Leu Tyr Phe Pro Gln Ser Leu Asp Phe Ser Gln Ile Leu Pro Met Lys
                275                     280                     285
Arg Glu Ser Cys Asp Ala Glu Glu Gln Ser Gly Gly Gln Tyr Glu Leu
            290                     295                     300
Phe Ala Val Ile Ala His Val Gly Met Ala Asp Ser Gly His Tyr Cys
305                     310                     315                     320
Val Tyr Ile Arg Asn Ala Val Asp Gly Lys Trp Phe Cys Phe Asn Asp
                325                     330                     335
Ser Asn Ile Cys Leu Val Ser Trp Glu Asp Ile Gln Cys Thr Tyr Gly
                340                     345                     350
Asn Pro Asn Tyr His Trp Gln Glu Thr Ala Tyr Leu Leu Val Tyr Met
                355                     360                     365
Lys Met Glu Cys
        370


<210> 5563
<211> 2878
<212> DNA
<213> Homo sapiens

<400> 5563
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240
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420
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720
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780
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840
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4748

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gacctggccc cttctcggcc cccgagtttc agtccctgcc ctgcagagga tctatttccg
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960
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1020
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1080
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1200
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1380
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1440
gcagggagcc ccgcccctgc ccctgcctcc aagagcccc ttcccatagc tggaccagcg
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acagcacctg ctccacggcc acttggctcc attcagagac caaacagctt cctcttccgt
1560
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1680
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1980
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2220
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2280
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2340
gccctctgta ccccgtgagg ggtggcagga gctggagtct ccccttcct cctgtgccct
2400
ccccttcccc ccccaacagc tgctatgggg gggctaaatt atctctattt tgtagagagg
2460
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atctatattt gtaggggttc ggggcccagg ccgggtccct atctctgtgt ataaactgta
2520
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2580
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2640
ctctcatgct cccggagcgt ccgccaaccc cccgtgtcac ctcccttctg ttatcgctga
2700
cagctttctt gcgtctcatt tgtcgccgag ccccgagcgc acggtgatgc tcgggtctgc
2760
cccgacccc ctgccacagg ccggaagccg caggggcac cgtggggaag ctaacccggc
2820
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2878

<210> 5564
<211> 683
<212> PRT
<213> Homo sapiens

<400> 5564
Met Ala Ala Ala Val Ala Ala Pro Leu Ala Ala Gly Gly Glu Glu Ala
 1   5   10   15
Ala Ala Thr Thr Ser Val Pro Gly Ser Pro Gly Leu Pro Gly Arg Arg
            20   25   30
Ser Ala Glu Arg Ala Leu Glu Glu Ala Val Ala Thr Gly Thr Leu Asn
        35   40   45
Leu Ser Asn Arg Arg Leu Lys His Phe Pro Arg Gly Ala Ala Arg Ser
    50   55   60
Tyr Asp Leu Ser Asp Ile Thr Gln Ala Asp Leu Ser Arg Asn Arg Phe
65   70   75   80
Pro Glu Val Pro Glu Ala Ala Cys Gln Leu Val Ser Leu Glu Gly Leu
            85   90   95
Ser Leu Tyr His Asn Cys Leu Arg Cys Leu Asn Pro Ala Leu Gly Asn
            100   105   110
Leu Thr Ala Leu Thr Tyr Leu Asn Leu Ser Arg Asn Gln Leu Ser Leu
        115   120   125
Leu Pro Pro Tyr Ile Cys Gln Leu Pro Leu Arg Val Leu Ile Val Ser
    130   135   140
Asn Asn Lys Leu Gly Ala Leu Pro Pro Asp Ile Gly Thr Leu Gly Ser
145   150   155   160
Leu Arg Gln Leu Asp Val Ser Ser Asn Glu Leu Gln Ser Leu Pro Ser
                165   170   175
Glu Leu Cys Gly Leu Ser Ser Leu Arg Asp Leu Asn Val Arg Arg Asn
            180   185   190
Gln Leu Ser Thr Leu Pro Glu Glu Leu Gly Asp Leu Pro Leu Val Arg
        195   200   205
Leu Asp Phe Ser Cys Asn Arg Val Ser Arg Ile Pro Val Ser Phe Cys
    210   215   220
Arg Leu Arg His Leu Gln Val Ile Leu Leu Asp Ser Asn Pro Leu Gln
225   230   235   240
Ser Pro Pro Ala Gln Val Cys Leu Lys Gly Lys Leu His Ile Phe Lys
                245   250   255
Tyr Leu Ser Thr Glu Ala Gly Gln Arg Gly Ser Ala Leu Gly Asp Leu

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                    260                  265                  270
Ala Pro Ser Arg Pro Pro Ser Phe Ser Pro Cys Pro Ala Glu Asp Leu
        275                  280                  285
Phe Pro Gly His Arg Tyr Asp Gly Gly Leu Asp Ser Gly Phe His Ser
    290                  295                  300
Val Asp Ser Gly Ser Lys Arg Trp Ser Gly Asn Glu Ser Thr Asp Glu
305                  310                  315                  320
Phe Ser Glu Leu Ser Phe Arg Ile Ser Glu Leu Ala Arg Glu Pro Arg
                325                  330                  335
Gly Pro Arg Glu Arg Lys Glu Asp Gly Ser Ala Asp Gly Asp Pro Val
            340                  345                  350
Gln Ile Asp Phe Ile Asp Ser His Val Pro Gly Glu Asp Glu Glu Arg
        355                  360                  365
Gly Thr Val Glu Glu Gln Arg Pro Pro Glu Leu Ser Pro Gly Ala Gly
    370                  375                  380
Asp Arg Glu Arg Ala Pro Ser Ser Arg Arg Glu Glu Pro Ala Gly Glu
385                  390                  395                  400
Glu Arg Arg Arg Pro Asp Thr Leu Gln Leu Trp Gln Glu Arg Glu Arg
                405                  410                  415
Arg Gln Gln Gln Gln Ser Gly Ala Trp Gly Ala Pro Arg Lys Asp Ser
            420                  425                  430
Leu Leu Lys Pro Gly Leu Arg Ala Val Val Gly Gly Ala Ala Ala Val
        435                  440                  445
Ser Thr Gln Ala Met His Asn Gly Ser Pro Lys Ser Ser Ala Ser Gln
    450                  455                  460
Ala Gly Gly Cys Ser Gly Ala Gly Ser Pro Ala Pro Ala Pro Ala Ser
465                  470                  475                  480
Gln Glu Pro Leu Pro Ile Ala Gly Pro Ala Thr Ala Pro Ala Pro Arg
                485                  490                  495
Pro Leu Gly Ser Ile Gln Arg Pro Asn Ser Phe Leu Phe Arg Ser Ser
            500                  505                  510
Ser Gln Ser Gly Ser Gly Pro Ser Ser Pro Asp Ser Val Leu Arg Pro
        515                  520                  525
Arg Arg Tyr Pro Gln Val Pro Asp Glu Lys Asp Leu Met Thr Gln Leu
    530                  535                  540
Arg Gln Val Leu Glu Ser Arg Leu Gln Arg Pro Leu Pro Glu Asp Leu
545                  550                  555                  560
Ala Glu Ala Leu Ala Ser Gly Val Ile Leu Cys Gln Leu Ala Asn Gln
                565                  570                  575
Leu Arg Pro Arg Ser Val Pro Phe Ile His Val Pro Ser Pro Ala Val
            580                  585                  590
Pro Lys Leu Ser Ala Leu Lys Ala Arg Lys Asn Val Glu Ser Phe Leu
        595                  600                  605
Glu Ala Cys Arg Lys Met Gly Val Pro Glu Ala Asp Leu Cys Ser Pro
    610                  615                  620
Ser Asp Leu Leu Gln Gly Thr Ala Arg Gly Leu Arg Thr Ala Leu Glu
625                  630                  635                  640
Ala Val Lys Arg Val Gly Gly Lys Ala Leu Pro Pro Leu Trp Pro Pro
                645                  650                  655
Ser Gly Leu Gly Gly Phe Val Val Phe Tyr Val Val Leu Met Leu Leu
            660                  665                  670
Leu Tyr Val Thr Tyr Thr Arg Leu Leu Gly Ser
        675                  680
```

<210> 5565
<211> 472
<212> DNA
<213> Homo sapiens

<400> 5565
nggatccaaa cgccgtggcc gcgggcccgc gcccgggcag acccgggctc cgctctcacg
60
tcacgcggta catgggctac agttccttgt ccgagggctt ccgggagctg gagccgcaca
120
gaatgaaggg gctcactggt agtggttccc aacttcgttg catattaaac cccccggaga
180
acttaaactc cagtgcccag tcctatgcaa tcagatcctg ggtctccact gtgcagcgcc
240
cgtggagagc cagcgatgtg gagggtcgag atcacccagt tctttgggga cagggtctca
300
ctgcccccaa ggctggagtc cggtggtgca atcacggctc acagcagtct cgacctccag
360
ggctcaagcg atcctccagc ctcagcctcc cgagcagctg ggagcacagg cgcataccac
420
gcgtggcttt tttgagacga gggcttgcca tgtttcccag gctggtctcg aa
472

<210> 5566
<211> 76
<212> PRT
<213> Homo sapiens

<400> 5566
Met Gln Ser Asp Pro Gly Ser Pro Leu Cys Ser Ala Arg Gly Glu Pro
1   5   10   15
Ala Met Trp Arg Val Glu Ile Thr Gln Phe Phe Gly Asp Arg Val Ser
            20   25   30
Leu Pro Pro Arg Leu Glu Ser Gly Gly Ala Ile Thr Ala His Ser Ser
            35   40   45
Leu Asp Leu Gln Gly Ser Ser Asp Pro Pro Ala Ser Ala Ser Arg Ala
        50   55   60
Ala Gly Ser Thr Gly Ala Tyr His Ala Trp Leu Phe
65   70   75

<210> 5567
<211> 968
<212> DNA
<213> Homo sapiens

<400> 5567
tttttttttt tttttttttt taggttccaa taaaatttta tttatgaaca ctaaaatttg
60
aatttcatat gcttttctca tgccacaaaa tattattctt ttgattgtat tcaacctttt
120
taaaaaccat ttttagctca caagctgtac aaaaacagac ggtgagtaaa ttggcccaca
180
gaccggtttg ctagcccctg ggcttaagag atctgtccac ttactcctca acatgcagag
240

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tgtgaactgt gtgaactgca taggccacag caatcttact gcatccattc ccgctgcatc
300
attatttttg atttgtattc attcagtcca ccgaagcatt cacttggcac ctctccaaat
360
ctgggtactg tgcaagatcc ttccttggga cactgaagga aaatcagaca cggcccttct
420
ctcaagttcg cagactctcc ggtatccaga tactacggct ctcatagtat cagaaaacac
480
agccacaagc gcaggtaagt atcagaggtg ttttacgaga tacatgtatc agattcttaa
540
ggctgctgta ccaaaatacc acaaactgca tggcttaaaa caacagaaat ttattccctc
600
acaatcctgg aggccagatg tctgaaatca agatattggt agggttggtt ccttctcgag
660
actctgaggg agaatctgtg acatgcctgt tttcctagct tctagtgact tcctccaatt
720
cttagggttc tttggctcat agatgcattg ctctaatctc tgcctccatc ttcccatggc
780
cttcagctct gtgtgtctat ttccccttct tttctaagag ctagtcattg aatttagggc
840
ccaccctact acaggttgat ctcatttcca ggtccttgat ttcatctgca aaaacttttt
900
ccaaataatg tcacacgtgg agattcccag tgaatgtatc tcctgggggc cactattcag
960
cctattac
968


<210> 5568
<211> 130
<212> PRT
<213> Homo sapiens


<400> 5568
Met Gln Ser Val Asn Cys Val Asn Cys Ile Gly His Ser Asn Leu Thr
1               5                   10                  15
Ala Ser Ile Pro Ala Ala Ser Leu Phe Leu Ile Cys Ile His Ser Val
            20                  25                  30
His Arg Ser Ile His Leu Ala Pro Leu Gln Ile Trp Val Leu Cys Lys
        35                  40                  45
Ile Leu Pro Trp Asp Thr Glu Gly Lys Ser Asp Thr Ala Leu Leu Ser
    50                  55                  60
Ser Ser Gln Thr Leu Arg Tyr Pro Asp Thr Thr Ala Leu Ile Val Ser
65                  70                  75                  80
Glu Asn Thr Ala Thr Ser Ala Gly Lys Tyr Gln Arg Cys Phe Thr Arg
                85                  90                  95
Tyr Met Tyr Gln Ile Leu Lys Ala Ala Val Pro Lys Tyr His Lys Leu
            100                 105                 110
His Gly Leu Lys Gln Gln Lys Phe Ile Pro Ser Gln Ser Trp Arg Pro
        115                 120                 125
Asp Val
    130


<210> 5569
<211> 876
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```
<212> DNA
<213> Homo sapiens

<400> 5569
nntttttttt tttttttttt ttgttaacct agagaaaaaa attttattta aagacacatt
60
ttaagtaaaa tgaagaacat tttacttatt tttatgtcca gtacagtcaa agcagccaca
120
ttgcataacc ccggggggacc cccttcctct ttgtgatgcc ccagaacaat attgatttga
180
ttatagaaag ccaccggcag cctacatgcg caacggtgag ttgttggtta tatacactgt
240
ggaccataca gtggaatatt acagtcaata aaaggtattt ttagagagaa aaaaaaacat
300
tggaacacgc ttatgatata atgttaggca aaatcgctgt tatgaacagc tcgtttgggg
360
cagagcaaat cctgggaagt aacgctgagg ctgttggtgc aggcggtgga gtacaacatc
420
ttcgagggta tggagtgcca cggctcccca ctagtggtca tcagccaggg caagatcgtc
480
tttgaagacg gaaacatcaa cgtcaacaag ggcatgggcc gcttcattcc gcggaaggcg
540
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600
gaggcatcct ggggctgcac tgctgatcct cttctctctc ccctggccct gagtgctgcc
660
ttcatgtggc tcagcccttc cgtccttcaa gccttcatca gcttcagggc agccccgagt
720
ctgtgcccag gtacactggc taaaatgcag tgtcttccaa atagccatat ctcttttaat
780
caggggagcaa ttccagcatg gaagtcccca tcatgctcct gctggcaggt acaggtgcca
840
gtttgtgacg gatgaaagca ccgacagccc acgcgt
876


<210> 5570
<211> 169
<212> PRT
<213> Homo sapiens

<400> 5570
Thr Ala Arg Leu Gly Gln Ser Lys Ser Trp Glu Val Thr Leu Arg Leu
1               5                   10                  15
Leu Val Gln Ala Val Glu Tyr Asn Ile Phe Glu Gly Met Glu Cys His
            20                  25                  30
Gly Ser Pro Leu Val Val Ile Ser Gln Gly Lys Ile Val Phe Glu Asp
        35                  40                  45
Gly Asn Ile Asn Val Asn Lys Gly Met Gly Arg Phe Ile Pro Arg Lys
    50                  55                  60
Ala Phe Pro Glu His Ser Ser Thr Trp Leu Glu Leu His Asn His Gly
65                  70                  75                  80
Arg Arg His Val Cys Glu Ala Ser Trp Gly Cys Thr Ala Asp Pro Leu
                85                  90                  95
Leu Ser Pro Leu Ala Leu Ser Ala Ala Phe Met Trp Leu Ser Pro Ser
```

```
                   100                        105                     110
Val Leu Gln Ala Phe Ile Ser Phe Arg Ala Ala Pro Ser Leu Cys Pro
            115                        120                     125
Gly Thr Leu Ala Lys Met Gln Cys Leu Pro Asn Ser His Ile Ser Phe
        130                        135                     140
Asn Gln Gly Ala Ile Pro Ala Trp Lys Ser Pro Ser Cys Ser Cys Trp
145                        150                        155                     160
Gln Val Gln Val Pro Val Cys Asp Gly
                    165
```

```
<210> 5571
<211> 405
<212> DNA
<213> Homo sapiens
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<400> 5571
aaccagaaag tggatctctt cagcctggga attatcttct ttgagatgtc ctatcacccc
60
atggtcacgg cttcagaaag gatctttgtt ctcaaccaac tcagagatcc cacttcgcct
120
aagtttccag aagactttga cgatggagag catgcaaagc agaaatcagt catctcctgg
180
ctgttgaacc acgatccagc aaaacggccc acagccacag aactgctcaa gagtgagctg
240
ctgcccccac cccagatgga ggagtcagag ctgcatgaag tgctgcacca cacgctgacc
300
aacgtggatg ggaaggccta ccgcaccatg atggcccaga tcttctcgca gcgcctcgct
360
ggggcggggg gaggtggcta ccgctcccgg cttggcgtcc cgcgg
405
```

```
<210> 5572
<211> 135
<212> PRT
<213> Homo sapiens
```

```
<400> 5572
Asn Gln Lys Val Asp Leu Phe Ser Leu Gly Ile Ile Phe Phe Glu Met
  1               5                   10                      15
Ser Tyr His Pro Met Val Thr Ala Ser Glu Arg Ile Phe Val Leu Asn
                20                      25                      30
Gln Leu Arg Asp Pro Thr Ser Pro Lys Phe Pro Glu Asp Phe Asp Asp
            35                      40                      45
Gly Glu His Ala Lys Gln Lys Ser Val Ile Ser Trp Leu Leu Asn His
        50                      55                      60
Asp Pro Ala Lys Arg Pro Thr Ala Thr Glu Leu Leu Lys Ser Glu Leu
65                      70                      75                      80
Leu Pro Pro Pro Gln Met Glu Glu Ser Glu Leu His Glu Val Leu His
                85                      90                      95
His Thr Leu Thr Asn Val Asp Gly Lys Ala Tyr Arg Thr Met Met Ala
            100                     105                     110
Gln Ile Phe Ser Gln Arg Leu Ala Gly Ala Gly Gly Gly Gly Tyr Arg
        115                     120                     125
Ser Arg Leu Gly Val Pro Arg
```

```
    130                     135
```

<210> 5573
<211> 1279
<212> DNA
<213> Homo sapiens

<400> 5573
naaaaacagg tggaatccgg gctggagccg gagctccggc ggcgcgggtg gcggcacgtc
60
cctccagaca gtaccacagg cacctggagt accggcatcg gtcgctgtgg cccccgagtg
120
tccgtcagag cctaggggag cctgccctcc cgcgcctcgt cggggcccgg ccaggcacct
180
tggccgccgg cgcacggacg cgggcacgag cactagatca cggctgctgg acctcggcac
240
gttgacaaga tttctctggg gtaccgcgga ggattacttt gaatttcggt ggtcgcctgt
300
ggtctggcat atttagaact taagtctatt atttcgggca ccatgacttt gaggctttta
360
gaagactggt gcagggggat ggacatgaac cctcggaaag cgctattgat tgccggcatc
420
tcccagagct gcagtgtggc agaaatcgag gaggctctgc aggctggttt agctcccttg
480
ggggagtaca gactgcttgg aaggatgttc aggagggatg agaacaggaa agtagcctta
540
gtagggctta ctgcggagac tagtcacgcc ctggtcccta aggagatacc gggaaaaggg
600
ggtatctgga gagtgatctt taagcccct gacccagata atacattttt aagcagatta
660
aatgaatttt tagcgggaga gggcatgaca gtgggtgagt tgagcagagc tcttggacat
720
gaaaatggct ccttagaccc agagcagggc atgatcccgg aaatgtgggc ccctatgttg
780
gcacaggcat tagaggctct tcagcctgcc ctgcaatgct tgaagtataa aaagctgaga
840
gtgttctcgg gcagggagtc tccagaacca ggagaagaag aatttggacg ctggatgttt
900
catactactc agatgataaa ggcgtggcag gtgccagatg tagagaagag aaggcgattg
960
ctagagagcc ttcgaggccc agcacttgat gttattcgtg tcctcaagat aaacaatcct
1020
ttaattactg tcgatgaatg tctgcaggct cttgaggagg tatttggggt tacagataat
1080
cctagggagt tgcaggtcaa atatctaacc acttaccaga aggatgagga aaagttgtcg
1140
gcttatgtac taaggctgga gcctttgtta cagaagctgg tacagagagg agcaattgag
1200
agagatgctg tgaatcaggc ccgcctagac caagtcattg ctggggcagt ccacaaaaca
1260
attcgcagag agcttaata
1279
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<210> 5574

<211> 312
<212> PRT
<213> Homo sapiens

<400> 5574
Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn
1   5   10   15
Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val
            20   25   30
Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu
        35   40   45
Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val
    50   55   60
Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys
65   70   75   80
Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro
                85   90   95
Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly
                100   105   110
Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn
            115   120   125
Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro
        130   135   140
Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu
145   150   155   160
Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro
                165   170   175
Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile
                180   185   190
Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu
            195   200   205
Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn
    210   215   220
Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val
225   230   235   240
Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr
                245   250   255
Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu
            260   265   270
Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp
        275   280   285
Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His
    290   295   300
Lys Thr Ile Arg Arg Glu Leu Asn
305   310

<210> 5575
<211> 2405
<212> DNA
<213> Homo sapiens

<400> 5575
ctctaatccc ctttcttgac tcttccaagt caggattctc accaaggaag ctatctgcct
60

4757

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tctttgggaa tgttgggctt atgaagactt gagataatgg ggttcatgta ttcagactct
120
ttagcatata cagtagagtt tctaatgttg tcagcattcc ctagtgggcg gttacaagtt
180
aggttgggat tctaatcata ttttatgata tctcacagat taaattgcac tttgtctctg
240
cccagtcttg attccctttt ggccagcagt ttttaggtct gtcagtactg cactgcaaga
300
atggcagatt ttgggatctc tgctggccag tttgtggcag tggtctggga taagtcatcc
360
ccagtggagg ctctgaaagg tctggtggat aagcttcaag cgttaaccgg caatgagggc
420
cgcgtgtctg tggaaaacat caagcagctg ttgcaatgtt tagtcccagg aagcaccact
480
ctgcacagtg ctgagatttt ggctgaaatc gcccggatcc ttcggcctgg tggatgtctt
540
tttctgaagg agccagtaga gacagctgta gataacaata gcaaagtgaa gacagcatct
600
aagctgtgtt cagccctgac tctttctggt cttgtggaag tgaaagagct gcagcgggag
660
cccctaaccc ctgaggaagt acagtctgtt cgagaacacc ttggtcatga aagtgacaac
720
ctgctgtttg ttcagatcac aggcaaaaaa ccaaactttg aagtgggttc ttctaggcag
780
cttaagcttt ccatcaccaa gaagtcttct ccttcagtga aacctgctgt ggaccctgct
840
gctgccaagc tgtggaccct ctcagccaac gatatggagg acgacagcat gtgcatcttc
900
tgtggatgta gtttaactca ccgttggcct cttgagcatg tggtcaggtt gaacatgatg
960
atcaaccaaa aggaggacag ggtggacacc ttctttaccc tggactccaa gtttcctctc
1020
gaagcctgca gtcactttag cttttcatta gcagagacca cgactgtatc actcattgct
1080
ttgaacactc tccaggatct cattgactca gatgagctgc tggatccaga agatttgaag
1140
aagccagatc cagcttccct gcgggctgct tcttgtgggg aagggaaaaa gaggaaggcc
1200
tgtaagaact gcacctgtgg ccttgctgaa gaactggaaa aagagaagtc aagggaacag
1260
atgagctccc aacccaagtc agcttgtgga aactgctacc tgggcgatgc cttccgctgt
1320
gccagctgcc cctaccttgg gatgccagcc ttcaaacctg gggaaaggt gcttctgagt
1380
gatagcaatc ttcatgatgc ctaggaggtt cctgacatgg gacccatctg ctcctccagc
1440
caactcctgt ccctcacatc ccaccatggt ggctcctccc acctcctctg gatttgttca
1500
ctctgagatc tgtttgcaga gtgggtgctt agcagacaga gtgaagctgg ctggggggca
1560
cagtggtgtg tagtgctgct gtgtatcaaa agaccaaggt attatgggac ctggtttcag
1620
aatgggatgg gtttcttcac ctcatgttaa gagaagggag tgtgtcctga agaagccctt
1680
```

```
cttctgatgt taaaatgctg accagaacgc tcttgagccc aggcatcgtt gagcattaac
1740
actctgtgac agagctgcag acccctgcct tgagtctcat ctcagcaatg ctgccaccct
1800
cttgtctttc agagttgtta gtttactcca ttctttgtga cacgagtcaa gtggctcaca
1860
acctcctcag ggcaccagag gactcactca ctggttgctg tgatgatatc cagtgtccct
1920
ctgccccctt ccatccccaa ccacatttga ctgtagcatt gcatctgtgt cctgttgtca
1980
tttatgttaa ccttcaggta ttaaacttgc tgcatatctt gacatatctt gagattctgc
2040
atgtcttgta aagagagggg atgtgcattt gtgtgtgatg ttggatagtc atccacgctc
2100
agtttggacc attggaggaa cttagtgtca cgcacaaatg gggctattcc tacgcttaga
2160
atagggcttg tctgcccact ttagaagagt ccaggttggt gagcatttag agggaagcag
2220
ggcagaactc tgaacgacaa tacgtctctc tgagcagaga cccctttgtt cttgttatcc
2280
acccatatgg acttggaatc aatcttgcca aatatttgga gagattgtgt ggatttaaga
2340
gacctggatt tttatatttt accagtaaat aaaagttttc attgatatct gtccttgaaa
2400
cttga
2405


<210> 5576
<211> 367
<212> PRT
<213> Homo sapiens

<400> 5576
Met Ala Asp Phe Gly Ile Ser Ala Gly Gln Phe Val Ala Val Val Trp
1               5                   10                  15
Asp Lys Ser Ser Pro Val Glu Ala Leu Lys Gly Leu Val Asp Lys Leu
            20                  25                  30
Gln Ala Leu Thr Gly Asn Glu Gly Arg Val Ser Val Glu Asn Ile Lys
        35                  40                  45
Gln Leu Leu Gln Cys Leu Val Pro Gly Ser Thr Thr Leu His Ser Ala
    50                  55                  60
Glu Ile Leu Ala Glu Ile Ala Arg Ile Leu Arg Pro Gly Gly Cys Leu
65                  70                  75                  80
Phe Leu Lys Glu Pro Val Glu Thr Ala Val Asp Asn Asn Ser Lys Val
                85                  90                  95
Lys Thr Ala Ser Lys Leu Cys Ser Ala Leu Thr Leu Ser Gly Leu Val
            100                 105                 110
Glu Val Lys Glu Leu Gln Arg Glu Pro Leu Thr Pro Glu Glu Val Gln
            115                 120                 125
Ser Val Arg Glu His Leu Gly His Glu Ser Asp Asn Leu Leu Phe Val
        130                 135                 140
Gln Ile Thr Gly Lys Lys Pro Asn Phe Glu Val Gly Ser Ser Arg Gln
145                 150                 155                 160
Leu Lys Leu Ser Ile Thr Lys Lys Ser Ser Pro Ser Val Lys Pro Ala
```

```
                    165                     170                     175
Val Asp Pro Ala Ala Ala Lys Leu Trp Thr Leu Ser Ala Asn Asp Met
                180                     185                     190
Glu Asp Asp Ser Met Cys Ile Phe Cys Gly Cys Ser Leu Thr His Arg
                195                     200                     205
Trp Pro Leu Glu His Val Val Arg Leu Asn Met Met Ile Asn Gln Lys
            210                     215                     220
Glu Asp Arg Val Asp Thr Phe Phe Thr Leu Asp Ser Lys Phe Pro Leu
225                     230                     235                     240
Glu Ala Cys Ser His Phe Ser Phe Ser Leu Ala Glu Thr Thr Thr Val
                    245                     250                     255
Ser Leu Ile Ala Leu Asn Thr Leu Gln Asp Leu Ile Asp Ser Asp Glu
                260                     265                     270
Leu Leu Asp Pro Glu Asp Leu Lys Lys Pro Asp Pro Ala Ser Leu Arg
                275                     280                     285
Ala Ala Ser Cys Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys
            290                     295                     300
Thr Cys Gly Leu Ala Glu Glu Leu Glu Lys Glu Lys Ser Arg Glu Gln
305                     310                     315                     320
Met Ser Ser Gln Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp
                    325                     330                     335
Ala Phe Arg Cys Ala Ser Cys Pro Tyr Leu Gly Met Pro Ala Phe Lys
                340                     345                     350
Pro Gly Glu Lys Val Leu Leu Ser Asp Ser Asn Leu His Asp Ala
                355                     360                     365
```

<210> 5577
<211> 659
<212> DNA
<213> Homo sapiens

<400> 5577
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ctccacgcag ataagctgtg gttctgctgc ctgtccccca accacaagct gctgcagtac
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ggagacatgg aggagggcng ccagcccgcc taccctnngg agagtctgcc cgagcaactc
120
cctgtggccg acatgagggc actcctgaca ggcaaggact gccccatgt ccgggagaag
180
ggctccggga agcagaacaa ggacctctat gagttggcct tctcaatcag ctatgaccgt
240
ggggaggagg aagcgtacct caacttcatt gcccctcca agcgggagtt ctacctgtgg
300
acagatgggc tcagtgcctt gctgggcagt cccatgggca gcgagcagac acggctggac
360
ctggagcagc tgctgaccat ggagaccaag ctgcgtctgc tggagctgga gaacgtgccc
420
atccccgagc ggccaccccc tgtgcccccca ccccccacca acttcaactt ctgctatgac
480
tgcagcatcg ctgaaccttg acagtgtggc tggccatggg ccacagctgc ggccactgca
540
gcagccatga agggcagtgg gtagaggagt gcaggcaccc tgaccagcag agattgctgc
600
agaaataaag tctgcttggc tcttgggaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa
659
```

```
<210> 5578
<211> 166
<212> PRT
<213> Homo sapiens

<400> 5578
Leu His Ala Asp Lys Leu Trp Phe Cys Cys Leu Ser Pro Asn His Lys
 1               5                  10                  15
Leu Leu Gln Tyr Gly Asp Met Glu Glu Gly Xaa Gln Pro Ala Tyr Pro
            20                  25                  30
Xaa Glu Ser Leu Pro Glu Gln Leu Pro Val Ala Asp Met Arg Ala Leu
        35                  40                  45
Leu Thr Gly Lys Asp Cys Pro His Val Arg Glu Lys Gly Ser Gly Lys
    50                  55                  60
Gln Asn Lys Asp Leu Tyr Glu Leu Ala Phe Ser Ile Ser Tyr Asp Arg
65                  70                  75                  80
Gly Glu Glu Glu Ala Tyr Leu Asn Phe Ile Ala Pro Ser Lys Arg Glu
                85                  90                  95
Phe Tyr Leu Trp Thr Asp Gly Leu Ser Ala Leu Leu Gly Ser Pro Met
            100                 105                 110
Gly Ser Glu Gln Thr Arg Leu Asp Leu Glu Gln Leu Leu Thr Met Glu
        115                 120                 125
Thr Lys Leu Arg Leu Leu Glu Leu Glu Asn Val Pro Ile Pro Glu Arg
    130                 135                 140
Pro Pro Pro Val Pro Pro Pro Pro Thr Asn Phe Asn Phe Cys Tyr Asp
145                 150                 155                 160
Cys Ser Ile Ala Glu Pro
                165

<210> 5579
<211> 1312
<212> DNA
<213> Homo sapiens

<400> 5579
actcctgtat caaccatgag ttcttctcag cctgtgtcac gaccattgca acccatacaa
60
ccagcaccgc ctcttcaacc atctggggtg ccaacaagtg gaccatctca gaccaccata
120
cacttactac ctacagctcc aactaccgtg aatgtaacac atcgtccagt aactcaggtg
180
accacaagac tccctgtacc aagagctcct gcaaaccacc aggtggttta tacaactctt
240
cctgcaccac cagctcaggc tcccttgcga ggaactgtta tgcaggctcc tgctgttcgg
300
caggtcaatc cccaaaatag tgttacagtt cgagtgcctc aaacaaccac atatgttgta
360
aacaatggac taaccctggg atcaacagga cctcagctca cagtgcatca ccgaccacca
420
caagtgcata ctgagccccc acgcccgtg cacccagcac ccttaccaga agctccacaa
480
ccacagcgtc tgcccccaga agctgccagc acatctctgc ctcagaagcc acacttgaag
540
```

```
ttagcacgcg ttcagagtca aaatggcata gtactgtcat ggagtgtcct ggaggtggat
600
cgaagctgtg ccactgttga tagctaccat ctctatgctt accatgagga acccagtgcc
660
actgtgccct cacaatggaa aaagattggg gaagtcaagg cacttccctt gcccatggca
720
tgtactctca cccagtttgt atctggtagc aaatactact ttgcagtacg agccaaggat
780
atttatggac gttttgggcc tttctgtgat cctcagtcaa cagatgtgat ctcttctacc
840
cagagcagtt aaaccttgga gcctttatat tttcctcttt taaaatttcc accttttggt
900
cttgttttta atcttgtgca tgataccyyyyyy tgtaaaatcc accttgtgca agatttcttg
960
gacagatgtg tgtatacact acatttgttt ataaccagaa gcaaaataaa ctcagcccac
1020
aaagctagaa tcttttcctg gacagtttag gctttggggt ttggaaatgt aaatgtgtac
1080
cttgctttag ttttgaggct ggggaatatg tgtgggtgtt tatgtgtgtt tttccttatg
1140
taggtgttat tgcattggag tctcccattt tcattctcaa atttacctct taaagtacga
1200
agtaagtaga tcaaaggatt tgagatgtgt aactggcatg attctgcttt tgaaggatct
1260
atagtatcat tttagttaag tgggtcaaac agaatcaaaa caaaacccaa ag
1312
```

```
<210> 5580
<211> 283
<212> PRT
<213> Homo sapiens

<400> 5580
Thr Pro Val Ser Thr Met Ser Ser Ser Gln Pro Val Ser Arg Pro Leu
1               5                   10                  15
Gln Pro Ile Gln Pro Ala Pro Pro Leu Gln Pro Ser Gly Val Pro Thr
            20                  25                  30
Ser Gly Pro Ser Gln Thr Thr Ile His Leu Leu Pro Thr Ala Pro Thr
        35                  40                  45
Thr Val Asn Val Thr His Arg Pro Val Thr Gln Val Thr Thr Arg Leu
    50                  55                  60
Pro Val Pro Arg Ala Pro Ala Asn His Gln Val Val Tyr Thr Thr Leu
65                  70                  75                  80
Pro Ala Pro Pro Ala Gln Ala Pro Leu Arg Gly Thr Val Met Gln Ala
                85                  90                  95
Pro Ala Val Arg Gln Val Asn Pro Gln Asn Ser Val Thr Val Arg Val
            100                 105                 110
Pro Gln Thr Thr Thr Tyr Val Val Asn Asn Gly Leu Thr Leu Gly Ser
        115                 120                 125
Thr Gly Pro Gln Leu Thr Val His His Arg Pro Pro Gln Val His Thr
    130                 135                 140
Glu Pro Pro Arg Pro Val His Pro Ala Pro Leu Pro Glu Ala Pro Gln
145                 150                 155                 160
Pro Gln Arg Leu Pro Pro Glu Ala Ala Ser Thr Ser Leu Pro Gln Lys
```

```
              165                   170                   175
Pro His Leu Lys Leu Ala Arg Val Gln Ser Gln Asn Gly Ile Val Leu
              180                   185                   190
Ser Trp Ser Val Leu Glu Val Asp Arg Ser Cys Ala Thr Val Asp Ser
          195                   200                   205
Tyr His Leu Tyr Ala Tyr His Glu Glu Pro Ser Ala Thr Val Pro Ser
      210                   215                   220
Gln Trp Lys Lys Ile Gly Glu Val Lys Ala Leu Pro Leu Pro Met Ala
225                   230                   235                   240
Cys Thr Leu Thr Gln Phe Val Ser Gly Ser Lys Tyr Tyr Phe Ala Val
              245                   250                   255
Arg Ala Lys Asp Ile Tyr Gly Arg Phe Gly Pro Phe Cys Asp Pro Gln
              260                   265                   270
Ser Thr Asp Val Ile Ser Ser Thr Gln Ser Ser
          275                   280
```

```
<210> 5581
<211> 720
<212> DNA
<213> Homo sapiens

<400> 5581
accgtggaaa ccgcggccat ggcggcaccg cggcaaatcc ccagccacat agtgcgcctc
60
aagcccagct gctctacaga ctcgtcgttc acccggacgc cggtgcccac cgtgtctctc
120
gcgtcccgcg agctgcctgt ctcgtcgtgg caggtcaccg agccgtcaag caagaatctg
180
tgggagcaga tctgcaagga gtatgaagct gagcagcctc cctttccaga aggatataaa
240
gtcaaacagg agcctgtgat tacggttgcg ccagtagagg aaatgctttt tcatggcttc
300
agtgcagagc actattttcc ggtttcccat ttcaccatga tctcacgtac accctgtcct
360
caagataaat cggaaacaat caacccaaaa acatgttctc ccaaagaata tttggaaact
420
ttcatctttc ctgttctgct tcccggaatg gctagcctgc ttcaccaagc gaagaaagaa
480
aaatgttttg aggtcagttg tttggcagga tttctttatt ttgagattct caatcattca
540
ttattatcag atgatagctc attatcttgg taccatcagg ttgttctcca gatgacccct
600
tcgggaggga agcctgtgt ttggggtcac ttacccagtt ccagccacac catctagttg
660
tgcacataca tgcgctgcca tctgtctggc cacttggact ccggagagct tttccgcctt
720

<210> 5582
<211> 212
<212> PRT
<213> Homo sapiens

<400> 5582
Met Ala Ala Pro Arg Gln Ile Pro Ser His Ile Val Arg Leu Lys Pro
```

```
 1                5                   10                  15
Ser Cys Ser Thr Asp Ser Ser Phe Thr Arg Thr Pro Val Pro Thr Val
            20                  25                  30
Ser Leu Ala Ser Arg Glu Leu Pro Val Ser Ser Trp Gln Val Thr Glu
            35                  40                  45
Pro Ser Ser Lys Asn Leu Trp Glu Gln Ile Cys Lys Glu Tyr Glu Ala
            50                  55                  60
Glu Gln Pro Pro Phe Pro Glu Gly Tyr Lys Val Lys Gln Glu Pro Val
65                  70                  75                  80
Ile Thr Val Ala Pro Val Glu Glu Met Leu Phe His Gly Phe Ser Ala
                85                  90                  95
Glu His Tyr Phe Pro Val Ser His Phe Thr Met Ile Ser Arg Thr Pro
                100                 105                 110
Cys Pro Gln Asp Lys Ser Glu Thr Ile Asn Pro Lys Thr Cys Ser Pro
            115                 120                 125
Lys Glu Tyr Leu Glu Thr Phe Ile Phe Pro Val Leu Leu Pro Gly Met
        130                 135                 140
Ala Ser Leu Leu His Gln Ala Lys Lys Glu Lys Cys Phe Glu Val Ser
145                 150                 155                 160
Cys Leu Ala Gly Phe Leu Tyr Phe Glu Ile Leu Asn His Ser Leu Leu
                165                 170                 175
Ser Asp Asp Ser Ser Leu Ser Trp Tyr His Gln Val Val Leu Gln Met
            180                 185                 190
Thr Pro Ser Gly Gly Lys Ala Cys Val Trp Gly His Leu Pro Ser Ser
            195                 200                 205
Ser His Thr Ile
    210
```

```
<210> 5583
<211> 2101
<212> DNA
<213> Homo sapiens

<400> 5583
nnaggccgcg actgcgtgct gctgcaagag gactttctgg cgcacagggg ccgaccccac
60
gtctacctgc agcgcatcca gctcaacaac cccacggagc gcgtggccgc gctgcagact
120
gtggggccca ctgccggccc agcccccaat gccttcacca gtaccctgga gaaggtcgga
180
gaccatcagt tcctcctcta ctcaggccgg tccccgccta cgcccactgg gttggtgcac
240
ctggtggtgg tggccgccaa gaagctggtg aaccgcctcc aagtggctcc caagacgcag
300
ctggatgaga cggtgctgtg ggtggtgcac gtctctggcc ccattaaccc ccaggtgctc
360
aaaagcaaag cagccaagga gctcaaggcg ctgcaggact tggcacggaa ggaaatgctg
420
gagctcttgg acatgccagc ggcggagctg cttcaagacc accagctcct ctgggctcag
480
ctcttcagcc caggagtgga aatgaagaag atcactgaca cccacacgcc gtctggcctc
540
accgtgaacc tgacgctcta ttacatgctc tcctgctcgc cagccccact gctcagcccc
600
```

tccctgagcc acagggagcg agaccagatg gagtcgacgc tcaactatga agatcactgc
660
ttcagcgggc acgccaccat gcacgccgag aacctgtggc cggggcggct gtcctccgtc
720
cagcagatcc tgcagctctc tgacctgtgg aggctgaccc tccagaagcg tggctgcaag
780
gggctggtga aggtgggtgc cccaggcatc ctgcagggga tggtgctcag ctttgggggg
840
ctgcagttca cagagaacca cctccagttc caggccgacc ccgacgtgct gcacaacagc
900
tatgcattgc atggcatccg ctacaagaac gaccatatca acctggccgt gctgcggatg
960
ccgagggcaa gccctaccta cacgtgtccg tggagtcccg tggccagcct gtcanagatc
1020
tatgcctgca aggcaggctg cctggacgag ccagtggagc tgacctcggc gcccacgggc
1080
cacaccttct cggtcatggt gacacagccc atcacgccac tgctctacat ctccaccgac
1140
ctcacacacc tgcaggacct gcggcacacg ctgcacctca aggccatcct ggcccatgat
1200
gagcacatgg cccagcagga ccccgggctg cccttcctct tctggttcag cgtggcctcc
1260
ctaatcaccc tcttccacct cttcctcttc aagctcatct acaacgagta ctgtgggcct
1320
ggagccaagc ccctcttcag gagtaaggaa gatcccagtg tctgagtgaa ctaacagtcc
1380
tgctttcagc caccatttgc aacagacacc cagcactgaa agtcccgctg ccaggagcaa
1440
gggatccttt ggaagcaccc gccctttgtg ccttgttggg ggaaaccggt gacgcagaag
1500
tgagtgtgga tacaccagag tttgcattgg aaggaatgag tgtcacgtgg ggagggaagg
1560
ggccagtgga cctttgtaa gctttccact caataaaatg aacctgtatg gcaaatactt
1620
gaaatggaac tcactccttc cactttcccc ctttcttctg tcccaggaaa tagatcatct
1680
tttgaaaaga ctcttgtcta ggaaaagttg tgtccttttc ctaatttaac gtgttctttc
1740
ttaatgaagt tttaatttat ttttgttgag attttgctag atggcttttg catccctgt
1800
agatggtgag tgttggcggt gatgtccgtc tcggcgttcg gaggccccac ggtcccgagg
1860
ctgggccggg gccccccagg gtggctgtgc tgctgcctgt aggagggtgc gggttgtgct
1920
gtcatcctcg ggtttgcacg ccctttttta ggagcctgtg gacatctgtg gttttgtact
1980
ttggggcttc aggggaggtg tttaactttc tagtgattga tgattgtcag gttttgaaat
2040
accaaagctt ttttgttctg tttttaaata aatatctttc aaactttaaa aaaaaaaaaa
2100
a
2101

<210> 5584

```
<211> 454
<212> PRT
<213> Homo sapiens

<400> 5584
Xaa Gly Arg Asp Cys Val Leu Leu Gln Glu Asp Phe Leu Ala His Arg
 1               5                  10                  15
Gly Arg Pro His Val Tyr Leu Gln Arg Ile Gln Leu Asn Asn Pro Thr
            20                  25                  30
Glu Arg Val Ala Ala Leu Gln Thr Val Gly Pro Thr Ala Gly Pro Ala
        35                  40                  45
Pro Asn Ala Phe Thr Ser Thr Leu Glu Lys Val Gly Asp His Gln Phe
    50                  55                  60
Leu Leu Tyr Ser Gly Arg Ser Pro Pro Thr Pro Thr Gly Leu Val His
65                  70                  75                  80
Leu Val Val Val Ala Ala Lys Lys Leu Val Asn Arg Leu Gln Val Ala
                85                  90                  95
Pro Lys Thr Gln Leu Asp Glu Thr Val Leu Trp Val Val His Val Ser
            100                 105                 110
Gly Pro Ile Asn Pro Gln Val Leu Lys Ser Lys Ala Ala Lys Glu Leu
            115                 120                 125
Lys Ala Leu Gln Asp Leu Ala Arg Lys Glu Met Leu Glu Leu Leu Asp
    130                 135                 140
Met Pro Ala Ala Glu Leu Leu Gln Asp His Gln Leu Leu Trp Ala Gln
145                 150                 155                 160
Leu Phe Ser Pro Gly Val Glu Met Lys Lys Ile Thr Asp Thr His Thr
                165                 170                 175
Pro Ser Gly Leu Thr Val Asn Leu Thr Leu Tyr Tyr Met Leu Ser Cys
            180                 185                 190
Ser Pro Ala Pro Leu Leu Ser Pro Ser Leu Ser His Arg Glu Arg Asp
        195                 200                 205
Gln Met Glu Ser Thr Leu Asn Tyr Glu Asp His Cys Phe Ser Gly His
    210                 215                 220
Ala Thr Met His Ala Glu Asn Leu Trp Pro Gly Arg Leu Ser Ser Val
225                 230                 235                 240
Gln Gln Ile Leu Gln Leu Ser Asp Leu Trp Arg Leu Thr Leu Gln Lys
                245                 250                 255
Arg Gly Cys Lys Gly Leu Val Lys Val Gly Ala Pro Gly Ile Leu Gln
            260                 265                 270
Gly Met Val Leu Ser Phe Gly Gly Leu Gln Phe Thr Glu Asn His Leu
            275                 280                 285
Gln Phe Gln Ala Asp Pro Asp Val Leu His Asn Ser Tyr Ala Leu His
    290                 295                 300
Gly Ile Arg Tyr Lys Asn Asp His Ile Asn Leu Ala Val Leu Arg Met
305                 310                 315                 320
Pro Arg Ala Ser Pro Thr Tyr Thr Cys Pro Trp Ser Pro Val Ala Ser
            325                 330                 335
Leu Ser Xaa Ile Tyr Ala Cys Lys Ala Gly Cys Leu Asp Glu Pro Val
            340                 345                 350
Glu Leu Thr Ser Ala Pro Thr Gly His Thr Phe Ser Val Met Val Thr
            355                 360                 365
Gln Pro Ile Thr Pro Leu Leu Tyr Ile Ser Thr Asp Leu Thr His Leu
    370                 375                 380
Gln Asp Leu Arg His Thr Leu His Leu Lys Ala Ile Leu Ala His Asp
```

```
385                    390                    395                    400
Glu His Met Ala Gln Gln Asp Pro Gly Leu Pro Phe Leu Phe Trp Phe
                    405                    410                    415
Ser Val Ala Ser Leu Ile Thr Leu Phe His Leu Phe Leu Phe Lys Leu
                420                    425                    430
Ile Tyr Asn Glu Tyr Cys Gly Pro Gly Ala Lys Pro Leu Phe Arg Ser
            435                    440                    445
Lys Glu Asp Pro Ser Val
        450
```

```
<210> 5585
<211> 740
<212> DNA
<213> Homo sapiens
```

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<400> 5585
tttttttttt gctttttttt ttttttttta ctttgaacat tagcattaag ttggttaccg
60
tacacatcca aaggcccagc atctcagaaa aatcattagg cggcacacct gtaccagagt
120
ctcacaagaa taaaatatac aatgctacat tgagtggtta aaaatacaca aaaaagtagt
180
tttaacaatc tataaatttt ttatacttaa aatcatgatt gagttgaaat aaaaaagtgc
240
atttcaattg ctaaaaaaat aatatcggta tagttaacac aaggggggaaa tcagtacatt
300
gagggatctg acaggatgct ggaaaaaatg actcagggaa gccgggcagc atgggctcct
360
ttggagattc aggagcggag ctcagttcca cctcactgca gttccctggg gccaagcagc
420
cctcctctcc ccagtatctt tcccatctta agagatcctg tcctacctac ctgtcacctc
480
cccaacccaa agactcctct aaacttcttt gcagcatgac agctgcctgc cctacactga
540
gtctacttga ccttcaattg cgtctccgca gagaggtagg agagggacac tgccccattc
600
tggacttgac ataagtaccc cagccacatg gccttcatcc ttatgaccta gcaggcagaa
660
cagggaccaa gcagcttcta ttttgtcaaa ctcctttgga caaatattca acattcaaca
720
acaagctttg taaacctaac
740
```

```
<210> 5586
<211> 87
<212> PRT
<213> Homo sapiens
```

```
<400> 5586
Met Gly Ser Phe Gly Asp Ser Gly Ala Glu Leu Ser Ser Thr Ser Leu
 1               5                   10                  15
Gln Phe Pro Gly Ala Lys Gln Pro Ser Ser Pro Gln Tyr Leu Ser His
            20                  25                  30
Leu Lys Arg Ser Cys Pro Thr Tyr Leu Ser Pro Pro Gln Pro Lys Asp
```

```
        35                      40                      45
Ser Ser Lys Leu Leu Cys Ser Met Thr Ala Ala Cys Pro Thr Leu Ser
    50                      55                      60
Leu Leu Asp Leu Gln Leu Arg Leu Arg Arg Glu Val Gly Glu Gly His
65                      70                      75                      80
Cys Pro Ile Leu Asp Leu Thr
                    85
```

```
<210> 5587
<211> 853
<212> DNA
<213> Homo sapiens

<400> 5587
tttttttagag attagtattt ccttgttcac aagacaccta attgacttgc aacaagacaa
60
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300
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420
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480
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600
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720
cagatgtcat caacaggtct cagaaagagg acatcggtgt ccacgtagag aagtgagtcc
780
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853
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```
<210> 5588
<211> 204
<212> PRT
<213> Homo sapiens

<400> 5588
Met Ala Pro Glu His Glu Ile Pro Lys Ile Gly Trp Tyr Ser Arg Phe
 1               5                   10                  15
Ala Arg His Pro Phe Tyr Gly Ser Ala Gly Val Asn Ser Gly Val Met
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                20                      25                      30
Leu Met Asn Leu Thr Arg Ile Arg Ser Thr Gln Phe Lys Asn Ser Met
        35                      40                      45
Ile Pro Thr Gly Leu Ala Trp Glu Asp Met Leu Tyr Pro Leu Tyr Gln
    50                      55                      60
Lys Tyr Lys Asn Ala Ile Thr Trp Gly Asp Gln Asp Leu Leu Asn Ile
65                      70                      75                      80
Ile Phe Tyr Phe Asn Pro Glu Cys Leu Tyr Val Phe Pro Cys Gln Trp
                85                      90                      95
Asn Tyr Arg Pro Asp His Cys Met Tyr Gly Ser Asn Cys Arg Glu Ala
            100                     105                     110
Glu His Glu Gly Val Ser Val Leu His Gly Asn Arg Gly Val Tyr His
        115                     120                     125
Asp Asp Lys Gln Pro Thr Phe Arg Ala Leu Tyr Glu Ala Ile Arg Asp
    130                     135                     140
Phe Pro Phe Gln Asp Asn Leu Phe Gln Ser Met Tyr Tyr Pro Leu Gln
145                     150                     155                     160
Leu Lys Phe Leu Glu Thr Val His Thr Leu Cys Gly Arg Ile Pro Gln
                165                     170                     175
Val Phe Leu Lys Gln Ile Glu Lys Thr Met Lys Arg Ala Tyr Glu Lys
            180                     185                     190
His Val Ile Ile His Val Gly Pro Asn Gln Met His
        195                     200
```

<210> 5589
<211> 1327
<212> DNA
<213> Homo sapiens

<400> 5589

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120
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180
agcagtggca gttcagatgc ggaccagcga gacccagccg ctccagagcc tgaagaacaa
240
gaggaaagaa aaccttctgc cacccagcag aagaaaaaca ccaaactctc tagcaaaacc
300
actgctaagt tatccactag tgctaaaaga attcagaagg agctagctga aataaccctt
360
gatcctcctc ctaattgcag tgctgggcct aaaggagata acatttatga atggagatca
420
actatacttg gtccaccggg ttctgtatat gaaggtggtg tgttttttct ggatatcaca
480
tttttcatcag attatccatt taagccacca aaggttactt tccgcaccag aatctatcac
540
tgcaacatca acagtcaggg agtcatctgt ctggacatcc ttaaagacaa ctggagtccc
600
gctttgacta tttcaaaggt tttgctgtct atttgttccc ttttgacaga ctgcaaccct
660
gcggatcctc tggttggaag catagccact cagtatttga ccaacagagc agaacacgac
720
```

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aggatagcca gacagtggac caagagatac gcaacataat tcacataatt tgtatgcagt
780
gtgaaggagc agaaggcatc ttctcactgt gctgcaaatc tttatagcct ttacaatacg
840
gacttctgtg tatatgttat actgattcta ctctgctttt atcctttgga gcctgggaga
900
ctccccaaaa aggtaaatgc tatcaagagt agaactttgt agctgtagat tagttatgtt
960
taaaacgcct acttgcaagt cttgcttctt tgggatatca aaatgtattt tgtgatgtac
1020
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1080
ctgtatgaag ttataaaagt agctgtagat ggctaggaat tatgtcattt gtattaaacc
1140
cagatctatt tctgagtatg tggttcatgc tgttgtgaaa aatgttttac cttttacctt
1200
tgtcagtttg taatgagagg atttcctttt acccttgtta gctcagagag cacctgatgt
1260
atcatctcaa acacaataaa catgctcctg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1320
aaaaaaa
1327
```

```
<210> 5590
<211> 207
<212> PRT
<213> Homo sapiens

<400> 5590
Met Ser Ser Asp Arg Gln Arg Ser Asp Asp Glu Ser Pro Ser Thr Ser
1               5                  10                  15
Ser Gly Ser Ser Asp Ala Asp Gln Arg Asp Pro Ala Ala Pro Glu Pro
            20                  25                  30
Glu Glu Gln Glu Glu Arg Lys Pro Ser Ala Thr Gln Gln Lys Lys Asn
        35                  40                  45
Thr Lys Leu Ser Ser Lys Thr Thr Ala Lys Leu Ser Thr Ser Ala Lys
    50                  55                  60
Arg Ile Gln Lys Glu Leu Ala Glu Ile Thr Leu Asp Pro Pro Pro Asn
65                  70                  75                  80
Cys Ser Ala Gly Pro Lys Gly Asp Asn Ile Tyr Glu Trp Arg Ser Thr
                85                  90                  95
Ile Leu Gly Pro Pro Gly Ser Val Tyr Glu Gly Gly Val Phe Phe Leu
            100                 105                 110
Asp Ile Thr Phe Ser Ser Asp Tyr Pro Phe Lys Pro Pro Lys Val Thr
        115                 120                 125
Phe Arg Thr Arg Ile Tyr His Cys Asn Ile Asn Ser Gln Gly Val Ile
    130                 135                 140
Cys Leu Asp Ile Leu Lys Asp Asn Trp Ser Pro Ala Leu Thr Ile Ser
145                 150                 155                 160
Lys Val Leu Leu Ser Ile Cys Ser Leu Leu Thr Asp Cys Asn Pro Ala
                165                 170                 175
Asp Pro Leu Val Gly Ser Ile Ala Thr Gln Tyr Leu Thr Asn Arg Ala
            180                 185                 190
Glu His Asp Arg Ile Ala Arg Gln Trp Thr Lys Arg Tyr Ala Thr
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4770

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         195                   200                    205

<210> 5591
<211> 2194
<212> DNA
<213> Homo sapiens

<400> 5591
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tgcagaaccc ccacgcgaca gctgcgggag gaacttgtca tcaccccgct gccttccggg
120
gacgtagccg ccacattcca gttccgcacg cgttgggatt cggatctgca gcgggaagga
180
gtgtcccatt acaggctctt ccctaaagcc ctgggacagc tgatctccaa gtattctcta
240
cgggagctcc acctgtcatt cacgcaaggc ttttggagga cccgatactg ggggccaccc
300
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360
gtggataagt cctggaggga gctcagtaat gtcctctcag ggatcttctg cgcctctctc
420
aacttcatcg actccaccaa cacagtcact cccactgcct ccttcaaacc cctgggtctg
480
gccaatgaca ctgaccacta ctttctgcgc tatgctgtgc tgccgcggga ggtggtctgc
540
accgaaaacc tcaccccctg gaagaagctc ttgccctgta gttccaaggc aggcctctct
600
gtgctgctga aggcagatcg cttgttccac accagctacc actcccaggc agtgcatatc
660
cgccctgttt gcagaaatgc acgctgtact agcatctcct gggagctgag gcagaccctg
720
tcagttgtat ttgatgcctt catcacgggg cagggaaaga aagactggtc cctcttccgg
780
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840
gacatcacca cctacaacca gccctgcctt tgtgtccagg acaacgagac attagaggtg
900
cacccacccc cgaccactac atatcaggac gtcatcctag gcactcggaa gacctatgcc
960
atctatgact tgcttgacac cgccatgatc aacaactctc gaaacctcaa catccagctc
1020
aagtggaaga gacccccaga gaatgaggcc cccccagtgc ccttcctgca tgcccagcgg
1080
tacgtgagtg gctatgggct gcagaagggg gagctgagca cactgctgta caacacccac
1140
ccataccggg ccttcccggt gctgctgctg gacaccgtac cctggtatct gcggctgtat
1200
gtgcacaccc tcaccatcac ctccaagggc aaggagaaca aaccaagtta catccactac
1260
cagcctgccc aggaccggct gcaaccccac ctcctggaga tgctgattca gctgccggcc
1320
aactcagtca ccaaggtttc catccagttt gagcgggcgc tgctgaagtg gaccgagtac
1380
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.

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acaccagatc ctaaccatgg cttctatgtc agcccatctg tcctcagcgc ccttgtgccc
1440
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1500
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1620
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1680
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1980
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2160
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2194


<210> 5592
<211> 580
<212> PRT
<213> Homo sapiens

<400> 5592
Met Pro Ser Gly Ser Ala Arg Pro Val Ala Pro Gly Ala Arg Arg Leu
1               5                   10                  15
Val Pro Cys Arg Thr Pro Thr Arg Gln Leu Arg Glu Glu Leu Val Ile
                20                  25                  30
Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln Phe Arg Thr
            35                  40                  45
Arg Trp Asp Ser Asp Leu Gln Arg Glu Gly Val Ser His Tyr Arg Leu
        50                  55                  60
Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys Tyr Ser Leu Arg Glu
65                  70                  75                  80
Leu His Leu Ser Phe Thr Gln Gly Phe Trp Arg Thr Arg Tyr Trp Gly
                85                  90                  95Pro Phe Leu
Gln Ala Pro Ser Gly Ala Glu Leu Trp Val Trp Phe
                100                 105                 110
Gln Asp Thr Val Thr Asp Val Asp Lys Ser Trp Arg Glu Leu Ser Asn
            115                 120                 125
Val Leu Ser Gly Ile Phe Cys Ala Ser Leu Asn Phe Ile Asp Ser Thr
        130                 135                 140
Asn Thr Val Thr Pro Thr Ala Ser Phe Lys Pro Leu Gly Leu Ala Asn
```

4772

```
145                    150                    155                    160
Asp Thr Asp His Tyr Phe Leu Arg Tyr Ala Val Leu Pro Arg Glu Val
                165                    170                    175
Val Cys Thr Glu Asn Leu Thr Pro Trp Lys Lys Leu Leu Pro Cys Ser
                180                    185                    190
Ser Lys Ala Gly Leu Ser Val Leu Leu Lys Ala Asp Arg Leu Phe His
                195                    200                    205
Thr Ser Tyr His Ser Gln Ala Val His Ile Arg Pro Val Cys Arg Asn
        210                    215                    220
Ala Arg Cys Thr Ser Ile Ser Trp Glu Leu Arg Gln Thr Leu Ser Val
225                    230                    235                    240
Val Phe Asp Ala Phe Ile Thr Gly Gln Gly Lys Lys Asp Trp Ser Leu
                245                    250                    255
Phe Arg Met Phe Ser Arg Thr Leu Thr Glu Pro Cys Pro Leu Ala Ser
                260                    265                    270
Glu Ser Arg Val Tyr Val Asp Ile Thr Thr Tyr Asn Gln Pro Cys Leu
                275                    280                    285
Cys Val Gln Asp Asn Glu Thr Leu Glu Val His Pro Pro Pro Thr Thr
        290                    295                    300
Thr Tyr Gln Asp Val Ile Leu Gly Thr Arg Lys Thr Tyr Ala Ile Tyr
305                    310                    315                    320
Asp Leu Leu Asp Thr Ala Met Ile Asn Asn Ser Arg Asn Leu Asn Ile
                325                    330                    335
Gln Leu Lys Trp Lys Arg Pro Pro Glu Asn Glu Ala Pro Pro Val Pro
                340                    345                    350
Phe Leu His Ala Gln Arg Tyr Val Ser Gly Tyr Gly Leu Gln Lys Gly
                355                    360                    365
Glu Leu Ser Thr Leu Leu Tyr Asn Thr His Pro Tyr Arg Ala Phe Pro
        370                    375                    380
Val Leu Leu Leu Asp Thr Val Pro Trp Tyr Leu Arg Leu Tyr Val His
385                    390                    395                    400
Thr Leu Thr Ile Thr Ser Lys Gly Lys Glu Asn Lys Pro Ser Tyr Ile
                405                    410                    415
His Tyr Gln Pro Ala Gln Asp Arg Leu Gln Pro His Leu Leu Glu Met
                420                    425                    430
Leu Ile Gln Leu Pro Ala Asn Ser Val Thr Lys Val Ser Ile Gln Phe
                435                    440                    445
Glu Arg Ala Leu Leu Lys Trp Thr Glu Tyr Thr Pro Asp Pro Asn His
        450                    455                    460
Gly Phe Tyr Val Ser Pro Ser Val Leu Ser Ala Leu Val Pro Ser Met
465                    470                    475                    480
Val Ala Ala Lys Pro Val Asp Trp Glu Glu Ser Pro Leu Phe Asn Ser
                485                    490                    495
Leu Phe Pro Val Ser Asp Gly Ser Asn Tyr Phe Val Arg Leu Tyr Thr
                500                    505                    510
Glu Pro Leu Leu Val Asn Leu Pro Thr Pro Asp Phe Ser Met Pro Tyr
        515                    520                    525
Asn Val Ile Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr Gly Ser
        530                    535                    540
Phe Tyr Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro Arg Thr
545                    550                    555                    560
Gly Gly Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala Arg Gly
                565                    570                    575
Val Pro Pro Leu
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580

<210> 5593
<211> 3078
<212> DNA
<213> Homo sapiens

<400> 5593
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120
aagtgtttaa tttgctacga ttacgatctt tgtgcatctt gttatgaaag tggtgcaaca
180
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1140
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1200
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1260
aactatcttg gtttgtttg gtgattgtaa tttcaggtct gtcactcttg ttacattgtg
1320
tacattcaaa aggaagagag aaaatatata tgataatcat ttccacttaa ctaattttta
1380

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1560
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2100
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gttgagaagt ttcaaaaatc agttttcaag ctgtggtctt tcaaacacat ctgcacataa
3000
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4775

gtcacacatt tcaataaagc attttcaaga ctgttgaaaa aaaaaaaaaa aaaaaaaaaa
3060
aaaaaaaaaa aaaaaaaa
3078

<210> 5594
<211> 296
<212> PRT
<213> Homo sapiens

<400> 5594
Met Gly Tyr Thr Glu Thr Ser Leu Gln Glu His Val Thr Ser Glu His
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Ala Glu Thr Ser Thr Glu Val Ile Cys Pro Ile Cys Ala Ala Leu Pro
            20   25   30
Gly Gly Asp Pro Asn His Val Thr Asp Asp Phe Ala Ala His Leu Thr
            35   40   45
Leu Glu His Arg Ala Pro Arg Asp Leu Asp Glu Ser Ser Gly Val Arg
        50   55   60
His Val Arg Arg Met Phe His Pro Gly Arg Gly Leu Gly Gly Pro Arg
65   70   75   80
Ala Arg Arg Ser Asn Met His Phe Thr Ser Ser Ser Thr Gly Gly Leu
                85   90   95
Ser Ser Ser Gln Ser Ser Tyr Ser Pro Ser Asn Arg Glu Ala Met Asp
            100   105   110
Pro Ile Ala Glu Leu Leu Ser Gln Leu Ser Gly Val Arg Arg Ser Ala
            115   120   125
Gly Gly Gln Leu Asn Ser Ser Gly Pro Ser Ala Ser Gln Leu Gln Gln
        130   135   140
Leu Gln Met Gln Leu Gln Leu Glu Arg Gln His Ala Gln Ala Ala Arg
145   150   155   160
Gln Gln Leu Glu Thr Ala Arg Asn Ala Thr Arg Arg Thr Asn Thr Ser
            165   170   175
Ser Val Thr Thr Thr Ile Thr Gln Ser Thr Ala Thr Thr Asn Ile Ala
            180   185   190
Asn Thr Glu Ser Ser Gln Gln Thr Leu Gln Asn Ser Gln Phe Leu Leu
            195   200   205
Thr Arg Leu Asn Asp Pro Lys Met Ser Glu Thr Glu Arg Gln Ser Met
        210   215   220
Glu Ser Glu Arg Ala Asp Arg Ser Leu Phe Val Gln Glu Leu Leu Leu
225   230   235   240
Ser Thr Leu Val Arg Glu Glu Ser Ser Ser Ser Asp Glu Asp Asp Arg
            245   250   255
Gly Glu Met Ala Asp Phe Gly Ala Met Gly Cys Val Asp Ile Met Pro
            260   265   270
Leu Asp Val Ala Leu Glu Asn Leu Asn Leu Lys Glu Ser Asn Lys Gly
            275   280   285
Asn Glu Pro Pro Pro Pro Leu
        290   295

<210> 5595
<211> 1515
<212> DNA
<213> Homo sapiens

4776

<400> 5595

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240
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420
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780
gttggtgaga caggatcagg agaccaggca ggcggagaag gaaaacatat cactgtgttc
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cttggcattg acctgctggc ctatggggcc aaagctgaac ttcccaaata taagtccttc
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1140
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1380
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<210> 5596
<211> 299
<212> PRT
<213> Homo sapiens

<400> 5596
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Lys Leu Ile Met Glu Leu Thr Gly Gly Gln Glu Ser Ser Gly Leu
            20                  25                  30
Asn Leu Gly Lys Lys Ile Ser Val Pro Arg Asp Val Met Leu Glu Glu
            35                  40                  45
Leu Ser Leu Leu Thr Asn Arg Gly Ser Lys Met Phe Lys Leu Arg Gln
        50                  55                  60
Met Arg Val Glu Lys Phe Ile Tyr Glu Asn His Pro Asp Val Phe Ser
65                  70                  75                  80
Asp Ser Ser Met Asp His Phe Gln Lys Phe Leu Pro Thr Val Gly Gly
                85                  90                  95
Gln Leu Gly Thr Ala Gly Gln Gly Phe Ser Tyr Ser Lys Ser Asn Gly
                100                 105                 110
Arg Gly Gly Ser Gln Ala Gly Gly Ser Gly Ser Ala Gly Gln Tyr Gly
            115                 120                 125
Ser Asp Gln Gln His His Leu Gly Ser Gly Ser Gly Ala Gly Gly Thr
        130                 135                 140
Gly Gly Pro Ala Gly Gln Ala Gly Arg Gly Gly Ala Ala Gly Thr Ala
145                 150                 155                 160
Gly Val Gly Glu Thr Gly Ser Gly Asp Gln Ala Gly Gly Glu Gly Lys
                165                 170                 175
His Ile Thr Val Phe Lys Thr Tyr Ile Ser Pro Trp Glu Arg Ala Met
            180                 185                 190
Gly Val Asp Pro Gln Gln Lys Met Glu Leu Gly Ile Asp Leu Leu Ala
            195                 200                 205
Tyr Gly Ala Lys Ala Glu Leu Pro Lys Tyr Lys Ser Phe Asn Arg Thr
        210                 215                 220
Ala Met Pro Tyr Gly Gly Tyr Glu Lys Ala Ser Lys Arg Met Thr Phe
225                 230                 235                 240
Gln Met Pro Lys Phe Asp Leu Gly Pro Leu Leu Ser Glu Pro Leu Val
                245                 250                 255
Leu Tyr Asn Gln Asn Leu Ser Asn Arg Pro Ser Phe Asn Arg Thr Pro
                260                 265                 270
Ile Pro Trp Leu Ser Ser Gly Glu Pro Val Asp Tyr Asn Val Asp Ile
            275                 280                 285
Gly Ile Pro Leu Asp Gly Glu Thr Glu Glu Leu
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<210> 5597
<211> 2240
<212> DNA
<213> Homo sapiens

<400> 5597
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300
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360
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420
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480
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720
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1200
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1260
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1380
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1620
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1680
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1800
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1920
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1980
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2040
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2100
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2240


<210> 5598
<211> 312
<212> PRT
<213> Homo sapiens

<400> 5598
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Asp Lys Ser Ser Pro Val Glu Ala Leu Lys Gly Leu Val Asp Lys Leu
            20                  25                  30
Gln Ala Leu Thr Gly Asn Glu Gly Arg Val Ser Val Glu Asn Ile Lys
        35                  40                  45
Gln Leu Leu Gln Ser Ala His Lys Glu Ser Ser Phe Asp Ile Ile Leu
    50                  55                  60
Ser Gly Leu Val Pro Gly Ser Thr Thr Leu His Ser Ala Glu Ile Leu
65                  70                  75                  80
Ala Glu Ile Ala Arg Ile Leu Arg Pro Gly Gly Cys Leu Phe Leu Lys
            85                  90                  95
Glu Pro Val Glu Thr Ala Val Asp Asn Asn Ser Lys Val Lys Thr Ala
            100                 105                 110
Ser Lys Leu Cys Ser Ala Leu Thr Leu Ser Gly Leu Val Glu Val Lys
        115                 120                 125
Glu Leu Gln Arg Glu Pro Leu Thr Pro Glu Glu Val Gln Ser Val Arg
    130                 135                 140
Glu His Leu Gly His Glu Ser Asp Asn Leu Leu Phe Val Gln Ile Thr
145                 150                 155                 160
Gly Lys Lys Pro Asn Phe Glu Val Gly Ser Ser Arg Gln Leu Lys Leu
            165                 170                 175
Ser Ile Thr Lys Lys Ser Ser Pro Ser Val Lys Pro Ala Val Asp Pro
            180                 185                 190
Ala Ala Ala Lys Leu Trp Thr Leu Ser Ala Asn Asp Met Glu Asp Asp
        195                 200                 205
Ser Met Asp Leu Ile Asp Ser Asp Glu Leu Leu Asp Pro Glu Asp Leu
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            210                    215                    220
Lys Lys Pro Asp Pro Ala Ser Leu Arg Ala Ala Ser Cys Gly Glu Gly
225                    230                    235                    240
Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys Gly Leu Ala Glu Glu
                245                    250                    255
Leu Glu Lys Glu Lys Ser Arg Glu Gln Met Ser Ser Gln Pro Lys Ser
                260                    265                    270
Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys Ala Ser Cys
            275                    280                    285
Pro Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys Val Leu Leu
            290                    295                    300
Ser Asp Ser Asn Leu His Asp Ala
305                    310
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<210> 5599
<211> 4492
<212> DNA
<213> Homo sapiens

<400> 5599
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240
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720
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1020
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1200
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2160
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4260
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4492

<210> 5600
<211> 923
<212> PRT
<213> Homo sapiens

<400> 5600
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Leu Tyr Ile Arg Val Val Asp Lys Val Glu Ile Gly Lys Thr Val Lys
                20   25   30
Ala Tyr Val Arg Val Leu Asp Leu His Lys Lys Pro Phe Leu Ala Lys
            35   40   45
Tyr Phe Pro Phe Met Asp Leu Lys Leu Arg Ala Ala Ser Pro Ile Ile
        50   55   60
Thr Leu Val Ala Leu Asp Glu Ala Leu Asp Asn Tyr Thr Ile Thr Phe
65   70   75   80
Leu Ile Arg Gly Val Ala Ile Gly Gln Thr Ser Leu Thr Ala Ser Val
                85   90   95
Thr Asn Lys Ala Gly Gln Arg Ile Asn Ser Ala Pro Gln Gln Ile Glu
            100   105   110
Val Phe Pro Pro Phe Arg Leu Met Pro Arg Lys Val Thr Leu Leu Ile
        115   120   125
Gly Ala Thr Met Gln Val Thr Ser Glu Gly Gly Pro Gln Pro Gln Ser
    130   135   140
Asn Ile Leu Phe Ser Ile Ser Asn Glu Ser Val Ala Leu Val Ser Ala
145   150   155   160
Ala Gly Leu Val Gln Gly Leu Ala Ile Gly Asn Gly Thr Val Ser Gly
                165   170   175
Leu Val Gln Ala Val Asp Ala Glu Thr Gly Lys Val Val Ile Ile Ser
            180   185   190
Gln Asp Leu Val Gln Val Glu Val Leu Leu Leu Arg Ala Val Arg Ile
        195   200   205
Arg Ala Pro Ile Met Arg Met Arg Thr Gly Thr Gln Met Pro Ile Tyr
    210   215   220
Val Thr Gly Ile Thr Asn His Gln Asn Pro Phe Ser Phe Gly Asn Ala
225   230   235   240
Val Pro Gly Leu Thr Phe His Trp Ser Val Thr Lys Arg Asp Val Leu
                245   250   255
Asp Leu Arg Gly Arg His His Glu Ala Ser Ile Arg Leu Pro Ser Gln
            260   265   270
Tyr Asn Phe Ala Met Asn Val Leu Gly Arg Val Lys Gly Arg Thr Gly
        275   280   285
Leu Arg Val Val Val Lys Ala Val Asp Pro Thr Ser Gly Gln Leu Tyr
    290   295   300
Gly Leu Ala Arg Glu Leu Ser Asp Glu Ile Gln Val Gln Val Phe Glu

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305                     310                     315                     320
Lys Leu Gln Leu Leu Asn Pro Glu Ile Glu Ala Glu Gln Ile Leu Met
                325                     330                     335
Ser Pro Asn Ser Tyr Ile Lys Leu Gln Thr Asn Arg Asp Gly Ala Ala
                340                     345                     350
Ser Leu Ser Tyr Arg Val Leu Asp Gly Pro Glu Lys Val Pro Val Val
                355                     360                     365
His Val Asp Glu Lys Gly Phe Leu Ala Ser Gly Ser Met Ile Gly Thr
        370                     375                     380
Ser Thr Ile Glu Val Ile Ala Gln Glu Pro Phe Gly Ala Asn Gln Thr
385                     390                     395                     400
Ile Ile Val Ala Val Lys Val Ser Pro Val Ser Tyr Leu Arg Val Ser
                405                     410                     415
Met Ser Pro Val Leu His Thr Gln Asn Lys Glu Ala Leu Val Ala Val
                420                     425                     430
Pro Leu Gly Met Thr Val Thr Phe Thr Val His Phe His Asp Asn Ser
        435                     440                     445
Gly Asp Val Phe His Ala His Ser Ser Val Leu Asn Phe Ala Thr Asn
        450                     455                     460
Arg Asp Asp Phe Val Gln Ile Gly Lys Gly Pro Thr Asn Asn Thr Cys
465                     470                     475                     480
Val Val Arg Thr Val Ser Val Gly Leu Thr Leu Leu Arg Val Trp Asp
                485                     490                     495
Ala Glu His Pro Gly Leu Ser Asp Phe Met Pro Leu Pro Val Leu Gln
        500                     505                     510
Ala Ile Ser Pro Glu Leu Ser Gly Ala Met Val Val Gly Asp Val Leu
        515                     520                     525
Cys Leu Ala Thr Val Leu Thr Ser Leu Glu Gly Leu Ser Gly Thr Trp
        530                     535                     540
Ser Ser Ser Ala Asn Ser Ile Leu His Ile Asp Pro Lys Thr Gly Val
545                     550                     555                     560
Ala Val Ala Arg Ala Val Gly Ser Val Thr Val Tyr Tyr Glu Val Ala
                565                     570                     575
Gly His Leu Arg Thr Tyr Lys Glu Val Val Val Ser Val Pro Gln Arg
        580                     585                     590
Ile Met Ala Arg His Leu His Pro Ile Gln Thr Ser Phe Gln Glu Ala
        595                     600                     605
Thr Ala Ser Lys Val Ile Val Ala Val Gly Asp Arg Ser Ser Asn Leu
        610                     615                     620
Arg Gly Glu Cys Thr Pro Thr Gln Arg Glu Val Ile Gln Ala Leu His
625                     630                     635                     640
Pro Glu Thr Leu Ile Ser Cys Gln Ser Gln Phe Lys Pro Ala Val Phe
                645                     650                     655
Asp Phe Pro Ser Gln Asp Val Phe Thr Val Glu Pro Gln Phe Asp Thr
                660                     665                     670
Ala Leu Gly Gln Tyr Phe Cys Ser Ile Thr Met His Arg Leu Thr Asp
        675                     680                     685
Lys Gln Arg Lys His Leu Ser Met Lys Lys Thr Ala Leu Val Val Ser
        690                     695                     700
Ala Ser Leu Ser Ser Ser His Phe Ser Thr Glu Gln Val Gly Ala Glu
705                     710                     715                     720
Val Pro Phe Ser Pro Gly Leu Phe Ala Asp Gln Ala Glu Ile Leu Leu
                725                     730                     735
Ser Asn His Tyr Thr Ser Ser Glu Ile Arg Val Phe Gly Ala Pro Glu
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            740                    745                    750
Val Leu Glu Asn Leu Glu Val Lys Ser Gly Ser Pro Ala Val Leu Ala
        755                    760                    765
Phe Ala Lys Glu Lys Ser Phe Gly Trp Pro Ser Phe Ile Thr Tyr Thr
        770                    775                    780
Val Gly Val Ser Asp Pro Ala Ala Gly Ser Gln Gly Pro Leu Ser Thr
785                    790                    795                    800
Thr Leu Thr Phe Ser Ser Pro Val Thr Asn Gln Ala Ile Ala Ile Pro
                805                    810                    815
Val Thr Val Ala Phe Val Met Asp Arg Arg Gly Pro Gly Pro Tyr Gly
                820                    825                    830
Ala Ser Leu Phe Gln His Phe Leu Asp Ser Tyr Gln Val Met Phe Phe
        835                    840                    845
Thr Leu Phe Ala Leu Leu Ala Gly Thr Ala Val Met Ile Ile Ala Tyr
        850                    855                    860
His Thr Val Cys Thr Pro Arg Asp Leu Ala Val Pro Ala Ala Leu Thr
865                    870                    875                    880
Pro Arg Ala Ser Pro Gly His Ser Pro His Tyr Phe Ala Ala Ser Ser
                885                    890                    895
Pro Thr Ser Pro Asn Ala Leu Pro Pro Ala Arg Lys Ala Ser Pro Pro
                900                    905                    910
Ser Gly Leu Trp Ser Pro Ala Tyr Ala Ser His
        915                    920
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<210> 5601
<211> 670
<212> DNA
<213> Homo sapiens

<400> 5601
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120
gaacagagaa ggacgacagc ttctttgttg cgcaaactga ctacagcctc caatggaggg
180
gtcattgagg agttatcttg tgttagatcc aataactatg tgcaggaacc agagtgcagg
240
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300
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420
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480
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540
cttggagaag ggaaattaaa gagggtgctt tactgttgcc ctgaaatttt caccatgcgc
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670
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<210> 5602
<211> 213
<212> PRT
<213> Homo sapiens

<400> 5602
Met Ala Ala Phe Gly Arg Gln Val Leu Asp Trp His Arg Leu Ile Pro
 1   5   10   15
Leu Thr Trp Ala Cys Met Ala Arg Gln Thr Arg His Leu Gly Glu Gln
                20   25   30
Arg Arg Thr Thr Ala Ser Leu Leu Arg Lys Leu Thr Thr Ala Ser Asn
            35   40   45
Gly Gly Val Ile Glu Glu Leu Ser Cys Val Arg Ser Asn Asn Tyr Val
        50   55   60
Gln Glu Pro Glu Cys Arg Arg Asn Leu Val Gln Cys Leu Leu Glu Lys
65   70   75   80
Gln Gly Thr Pro Val Val Gln Gly Ser Leu Glu Leu Glu Arg Val Met
                85   90   95
Ser Ser Leu Leu Asp Met Gly Phe Ser Asn Ala His Ile Asn Glu Leu
                100   105   110
Leu Ser Val Arg Arg Gly Ala Ser Leu Gln Gln Leu Leu Asp Ile Ile
            115   120   125
Ser Glu Phe Ile Leu Leu Gly Leu Asn Pro Glu Pro Val Cys Val Val
        130   135   140
Leu Lys Lys Ser Pro Gln Leu Leu Lys Leu Pro Ile Met Gln Met Arg
145   150   155   160
Lys Arg Ser Ser Tyr Leu Gln Lys Leu Gly Leu Gly Glu Gly Lys Leu
                165   170   175
Lys Arg Val Leu Tyr Cys Cys Pro Glu Ile Phe Thr Met Arg Gln Gln
                180   185   190
Asp Ile Asn Asp Thr Val Arg Leu Leu Lys Glu Lys Cys Leu Phe Thr
            195   200   205
Val Pro Leu His Ala
    210

<210> 5603
<211> 2070
<212> DNA
<213> Homo sapiens

<400> 5603
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120
catgatggag acccttcaaa tttgcttatg ttcttttttca gcctatagac cagatataat
180
aattagcttt tcttctcttg cagattccag agagtcctct atttcatatg tgccttccag
240
aacatctctt gtggtattca ctacttggct tctgtgttca tgggagtcac ccctcatcat
300
gtctgcaggc ccccaggcaa tgtgagtcag gttgttttcc ataatcactc taattggagt
360

                            4787

ttggaggaca ccggggccct gttgtcttca ggccagaaag attatgttac ggtgcagttg
420

cagaatggtg agatctggga gctctcaagg tgtagcagga ataagaggga gaacacatcg
480

agtttgggct atgaatacac tggcagtaag aaagagtttc cttgtgtgga tggctacata
540

tatgaccaga acacatggaa aagcactgcg gtgacccagt ggaacctggt ctgtgaccga
600

aaatggcttg caatgctgat ccagccccta tttatgtttg gagtcctact gggatcggtg
660

acttttggct actttctga caggctagga cgccgggtgg tcttgtgggc cacaagcagt
720

agcatgtttt tgtttggaat agcagcggcg tttgcagttg attattacac cttcatggct
780

gctcgctttt ttcttgccat ggttgcaagt ggctatcttg tggtggggtt tgtctatgtg
840

atggaattca ttggcatgaa gtctcggaca tgggcgtctg tccatttgca ttcctttttt
900

gcagttggaa ccctgctggt ggctttgaca ggatacttgg tcaggacctg gtggctttac
960

cagatgatcc tctccacagt gactgtcccc tttatcctgt gctgttgggt gctcccagag
1020

acaccttttt ggcttctctc agagggacga tatgaagaag cacaaaaaat agttgacatc
1080

atggccaagt ggaacagggc aagctcctgt aaactgtcag aactttatc actggaccta
1140

caaggtcctg ttagtaatag ccccactgaa gttcagaagc acaacctatc atatctgttt
1200

tataactgga gcattacgaa aaggacactt accgtttggc taatctggtt cactggaagt
1260

ttgggattct actcgttttc cttgaattct gttaacttag gaggcaatga atacttaaac
1320

ctcttcctcc tgggtgtagt ggaaattccc gcctacacct tcgtgtgcat cgccatggac
1380

aaggtcggga ggagaacagt cctggcctac tctcttttct gcagtgcact ggcctgtggt
1440

gtcgttatgg tgatccccca gaaacattat attttgggtg tggtgacagc tatggttgga
1500

aaatttgcca tcgggggcagc atttggcctc atttatcttt atacagctga gctgtatcca
1560

accattgtaa gatcgctggc tgtgggaagc ggcagcatgg tgtgtcgcct ggccagcatc
1620

ctggcgccgt tctctgtgga cctcagcagc atttggatct tcataccaca gttgtttgtt
1680

gggactatgg ccctcctgag tggagtgtta acactaaagc ttccagaaac ccttgggaaa
1740

cggctagcaa ctacttggga ggaggctgca aaactggagt cagagaatga aagcaagtca
1800

agcaaattac ttctcacaac taataatagt gggctggaaa aaacggaagc gattaccccc
1860

agggattctg gtcttggtga ataaatgtgc catgcctgct gtctagcacc tgaaatatta
1920

tttaccctaa tgcctttgta ttagaggaat cttattctca tctcccatat gttgtttgta
1980

tgtcttttta ataaattttg taagaaaatt ttaaagcaaa tatgttataa aagaaataaa
2040
aactaagatg aaaattctca gttttaaaaa
2070

<210> 5604
<211> 560
<212> PRT
<213> Homo sapiens

<400> 5604
Arg Phe Gln Arg Val Leu Tyr Phe Ile Cys Ala Phe Gln Asn Ile Ser
 1   5   10   15
Cys Gly Ile His Tyr Leu Ala Ser Val Phe Met Gly Val Thr Pro His
            20   25   30
His Val Cys Arg Pro Pro Gly Asn Val Ser Gln Val Val Phe His Asn
        35   40   45
His Ser Asn Trp Ser Leu Glu Asp Thr Gly Ala Leu Leu Ser Ser Gly
    50   55   60
Gln Lys Asp Tyr Val Thr Val Gln Leu Gln Asn Gly Glu Ile Trp Glu
65   70   75   80
Leu Ser Arg Cys Ser Arg Asn Lys Arg Glu Asn Thr Ser Ser Leu Gly
                85   90   95
Tyr Glu Tyr Thr Gly Ser Lys Lys Glu Phe Pro Cys Val Asp Gly Tyr
            100   105   110
Ile Tyr Asp Gln Asn Thr Trp Lys Ser Thr Ala Val Thr Gln Trp Asn
        115   120   125
Leu Val Cys Asp Arg Lys Trp Leu Ala Met Leu Ile Gln Pro Leu Phe
    130   135   140
Met Phe Gly Val Leu Leu Gly Ser Val Thr Phe Gly Tyr Phe Ser Asp
145   150   155   160
Arg Leu Gly Arg Arg Val Val Leu Trp Ala Thr Ser Ser Ser Met Phe
                165   170   175
Leu Phe Gly Ile Ala Ala Ala Phe Ala Val Asp Tyr Tyr Thr Phe Met
            180   185   190
Ala Ala Arg Phe Phe Leu Ala Met Val Ala Ser Gly Tyr Leu Val Val
        195   200   205
Gly Phe Val Tyr Val Met Glu Phe Ile Gly Met Lys Ser Arg Thr Trp
    210   215   220
Ala Ser Val His Leu His Ser Phe Phe Ala Val Gly Thr Leu Leu Val
225   230   235   240
Ala Leu Thr Gly Tyr Leu Val Arg Thr Trp Trp Leu Tyr Gln Met Ile
                245   250   255
Leu Ser Thr Val Thr Val Pro Phe Ile Leu Cys Cys Trp Val Leu Pro
                260   265   270
Glu Thr Pro Phe Trp Leu Leu Ser Glu Gly Arg Tyr Glu Glu Ala Gln
            275   280   285
Lys Ile Val Asp Ile Met Ala Lys Trp Asn Arg Ala Ser Ser Cys Lys
        290   295   300
Leu Ser Glu Leu Leu Ser Leu Asp Leu Gln Gly Pro Val Ser Asn Ser
305   310   315   320
Pro Thr Glu Val Gln Lys His Asn Leu Ser Tyr Leu Phe Tyr Asn Trp
                325   330   335
Ser Ile Thr Lys Arg Thr Leu Thr Val Trp Leu Ile Trp Phe Thr Gly

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                  340                      345                      350
Ser Leu Gly Phe Tyr Ser Phe Ser Leu Asn Ser Val Asn Leu Gly Gly
          355                      360                      365
Asn Glu Tyr Leu Asn Leu Phe Leu Leu Gly Val Val Glu Ile Pro Ala
      370                      375                      380
Tyr Thr Phe Val Cys Ile Ala Met Asp Lys Val Gly Arg Arg Thr Val
385                      390                      395                      400
Leu Ala Tyr Ser Leu Phe Cys Ser Ala Leu Ala Cys Gly Val Val Met
              405                      410                      415
Val Ile Pro Gln Lys His Tyr Ile Leu Gly Val Val Thr Ala Met Val
              420                      425                      430
Gly Lys Phe Ala Ile Gly Ala Ala Phe Gly Leu Ile Tyr Leu Tyr Thr
          435                      440                      445
Ala Glu Leu Tyr Pro Thr Ile Val Arg Ser Leu Ala Val Gly Ser Gly
      450                      455                      460
Ser Met Val Cys Arg Leu Ala Ser Ile Leu Ala Pro Phe Ser Val Asp
465                      470                      475                      480
Leu Ser Ser Ile Trp Ile Phe Ile Pro Gln Leu Phe Val Gly Thr Met
              485                      490                      495
Ala Leu Leu Ser Gly Val Leu Thr Leu Lys Leu Pro Glu Thr Leu Gly
          500                      505                      510
Lys Arg Leu Ala Thr Thr Trp Glu Glu Ala Ala Lys Leu Glu Ser Glu
          515                      520                      525
Asn Glu Ser Lys Ser Ser Lys Leu Leu Leu Thr Thr Asn Asn Ser Gly
      530                      535                      540
Leu Glu Lys Thr Glu Ala Ile Thr Pro Arg Asp Ser Gly Leu Gly Glu
545                      550                      555                      560
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<210> 5605
<211> 376
<212> DNA
<213> Homo sapiens

<400> 5605
acgcgtgaag gggaactgat gataaacaca aaaggcaatg ttagatggcg ccaggcactg
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cgagggagac acactgggtc ttggggtaga gcgggaagag gtggtagtga cttcttcagt
120
catccaggga ggcctctcca gggaggatga cggaacatca gaggaaagaa gcaaggagaa
180
ccagccacac tcagagctgg gaaagagcag caggaagatg ggggcagtga gtgccagggc
240
tctgcaggga tgggcttgcc tggcagggag caataccaag gaagttagta gggcccgggt
300
catgccacgg ccttgtaggc agaaccctta agtctctttg tagggacccc tttggtctcc
360
cctttgaact acgccc
376

<210> 5606
<211> 101
<212> PRT
<213> Homo sapiens
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<400> 5606
Met Thr Arg Ala Leu Leu Thr Ser Leu Val Leu Leu Pro Ala Arg Gln
 1   5   10   15
Ala His Pro Cys Arg Ala Leu Ala Leu Thr Ala Pro Ile Phe Leu Leu
                20   25   30
Leu Phe Pro Ser Ser Glu Cys Gly Trp Phe Ser Leu Leu Leu Ser Ser
            35   40   45
Asp Val Pro Ser Ser Ser Leu Glu Arg Pro Pro Trp Met Thr Glu Glu
    50   55   60
Val Thr Thr Thr Ser Ser Arg Ser Thr Pro Arg Pro Ser Val Ser Pro
65   70   75   80
Ser Gln Cys Leu Ala Pro Ser Asn Ile Ala Phe Cys Val Tyr His Gln
                85   90   95
Phe Pro Phe Thr Arg
                100

<210> 5607
<211> 320
<212> DNA
<213> Homo sapiens

<400> 5607
gtgcacacgc gaggtatagg ctccagactc ctcaccaaga tgggctatga gtttggcaag
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ggtttgggcc gacacgcgga aggccgggtg gagcccatcc atgctgtggt gttgcctcga
120
gggaagtcgc tggaccagtg tgtggagacc ctgcagaagc agaccagggt tggcaaggct
180
ggcaccaaca agccccccag gtgccgggga agaggggcca ggcctggggg ccgcccagct
240
cctcggaatg tgtttgactt cctcaatgaa aagctgcaag gtcaggctcc tggggcccta
300
caagccgggc ggcctcagca
320

<210> 5608
<211> 106
<212> PRT
<213> Homo sapiens

<400> 5608
Val His Thr Arg Gly Ile Gly Ser Arg Leu Leu Thr Lys Met Gly Tyr
 1   5   10   15
Glu Phe Gly Lys Gly Leu Gly Arg His Ala Glu Gly Arg Val Glu Pro
                20   25   30
Ile His Ala Val Val Leu Pro Arg Gly Lys Ser Leu Asp Gln Cys Val
            35   40   45
Glu Thr Leu Gln Lys Gln Thr Arg Val Gly Lys Ala Gly Thr Asn Lys
    50   55   60
Pro Pro Arg Cys Arg Gly Arg Gly Ala Arg Pro Gly Gly Arg Pro Ala
65   70   75   80
Pro Arg Asn Val Phe Asp Phe Leu Asn Glu Lys Leu Gln Gly Gln Ala
                85   90   95
Pro Gly Ala Leu Gln Ala Gly Arg Pro Gln

                        100   105

<210> 5609
<211> 1843
<212> DNA
<213> Homo sapiens

<400> 5609
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60
ccagaaagta tagtgcaaac actcagtaga aaagttgcaa ttaagaaatg tacattcaca
120
tttaacattt cagtccattc acttttttta aaataaaaat aggacaaatt attcaattac
180
ttgtctcaat ttaacaatct tgaaaaagac tggaaggtac cctacagtgt tcagttgaca
240
taaaaataga cccgtattga tcatacaaat ctatcatgag aagttaccca gtgagagtga
300
gttattgtaa ttctgaatgt actcatcgtg tttctcactt ctacagaagc atcctcagtg
360
agttgtattg tgcgagaaaa tgacaccctt gcccacatca ctctccattc catagaggga
420
cacaacccta tctagccaaa cccagaagaa cgcaggcgct tacacaactt ttctcggaca
480
gtcgagaaaa tccaaaagtg ggctttgggc ttaccttaaa taggaatgga atgtaccact
540
acgagatggt catcataata aggacattgt tgtttgagcg gggggtgtgc aatcagtata
600
aatgaggatg gcggaggaag aggagtggtg actgaaggga ggtggtgcat aataagtgca
660
cgagctacac aaagctcgag ctacacaaag ctcaggctcc acgggcctcg ccttggctcc
720
cagggatgct ctgcagccag cgggcggatg acctgaggtc gggcctgggc ctgtcccttt
780
gtgcatgcgg cgtgatttca aattcaaact aagttccaca ccattaggag ttttcacggc
840
atgcagttcc agagtgcaaa tggcttgcat atgtgcagtt tttacaggtg gaaggcaaga
900
ccatacatct ctcccacact gggcgtgcct cctagtggac agttgtatgc aagaggcggt
960
gatgggctcc ctcaggatcc cccaatgtgg gaatggtccc ctgagacttg tgcttcgtgt
1020
gcctggggcc cagagttggg tggggggttg ctggtgggag gtgagaaaca agttctggct
1080
gccgtcgggc cagcttccca ctgccctcac ctgggaggtg gatgcccaca ggcaggatgc
1140
tctgggctac tgttgcacag tcctgcacga gatatttatt cagcccacaa gatttaatag
1200
atctcttggg agttcatcta ggctattatg tctgtttaaa cattaattct caataagtgc
1260
ctgaaagctc ttttgaaagc aacctatttg aaggtctgaa ccgcccggta ccagcaggaa
1320
ccaatgccca ggagagggtc agagcacatg tgctctggtg gttgtcaaat ctctcaccat
1380

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ccatcataag ccctctgaac tcctgctgaa atcggccctt tgaacatcct ctaacccctg
1440
ggaaggcacc cggacccacc tttacctcac cagcagcata tgacaataac attaaatggc
1500
tctacagcag aggaagatga aagtaaaagt agcaaataca accaatggcc ttcccatagc
1560
tcacagaact cctgagcaga agctgagcag ggaagaaatg gtgtgtagtt tcagggtgtc
1620
tggaggtgcc accatttctc cccatttgat gtcagagagg ctttacaaaa aaataaggca
1680
acagctctta aggagattct gtatatttga aattagacgc aatgacaggt ttcgctccca
1740
aantatagtt ttagaatata gtctgatatg acaaagtagg gatttttaaa gcctaacatt
1800
ttatttcctt gctggggatc agttagtaaa gaaggaggaa ttc
1843


<210> 5610
<211> 153
<212> PRT
<213> Homo sapiens


<400> 5610
Met Arg Arg Asp Phe Lys Phe Lys Leu Ser Ser Thr Pro Leu Gly Val
1               5                   10                  15
Phe Thr Ala Cys Ser Ser Arg Val Gln Met Ala Cys Ile Cys Ala Val
            20                  25                  30
Phe Thr Gly Gly Arg Gln Asp His Thr Ser Leu Pro His Trp Ala Cys
            35                  40                  45
Leu Leu Val Asp Ser Cys Met Gln Glu Ala Val Met Gly Ser Leu Arg
        50                  55                  60
Ile Pro Gln Cys Gly Asn Gly Pro Leu Arg Leu Val Leu Arg Val Pro
65                  70                  75                  80
Gly Ala Gln Ser Trp Val Gly Gly Cys Trp Trp Glu Val Arg Asn Lys
                85                  90                  95
Phe Trp Leu Pro Ser Gly Gln Leu Pro Thr Ala Leu Thr Trp Glu Val
            100                 105                 110
Asp Ala His Arg Gln Asp Ala Leu Gly Tyr Cys Cys Thr Val Leu His
        115                 120                 125
Glu Ile Phe Ile Gln Pro Thr Arg Phe Asn Arg Ser Leu Gly Ser Ser
    130                 135                 140
Ser Arg Leu Leu Cys Leu Phe Lys His
145                 150


<210> 5611
<211> 1152
<212> DNA
<213> Homo sapiens


<400> 5611
ngggccgctc cctcccggac tcccggcctc ccggcctccc tggtcccgcc tgggaaggga
60
tgcaaggaag ccctccggcg ctgcgctccg aggcgggaga cagcgtcccc ctccgcccct
120
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4793

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cgggtcctgg cgcctcagag cccggcccag gccgcggaac ggtgatgctc gggccggacg
180
ggcgagcgcg gatccctgcg tcccgctgaa aatgtgtgtc tgacatgcaa gctcagtggg
240
gcagagaccc gtggattgct gtgccctgcc ctccggacct ggatcatgaa ggtgttggga
300
agaagcttct tctgggtgct gtttcccgtc cttccctggg cggtgcaggc tgtggagcac
360
gaggaggtgg cgcagcgtgt gatcaaactg caccgcgggc gaggggtggc tgccatgcag
420
agccggcagt gggtccggga cagctgcagg aagctctcag ggcttctccg ccagaagaat
480
gcagttctga acaaactgaa aactgcaatt ggagcagtgg agaaagacgt gggcctgtcg
540
gatgaagaga aactgtttca ggtgcacacg tttgaaattt tccagaaaga gctgaatgaa
600
agtgaaaatt ccgttttcca agctgtctac ggactgcaga gagccctgca gggggattac
660
aaagatgtcg tgaacatgaa ggagagcagc cggcagcgcc tggaggccct gagagaggct
720
gcaataaagg aagaaacaga atatatggaa cttctggcag cagaaaaaca tcaagttgaa
780
gcccttaaaa atatgcaaca tcaaaaccaa agtttatcca tgcttgacga gattcttgaa
840
gatgtaagaa aggcagcgga tcgtctggag aagagatag aggaacatgc ttttgacgac
900
aataaatcag tcaagggggt caattttgag gcagttctga gggtggagga agaagaggcc
960
aattctaagc aaaatataac aaaacgagaa gtggaggatg acttggttct tagcatgctg
1020
attgactccc agaacaacca gtatattttg accaagccca gagattcaac catcccacgt
1080
gcagatcacc actttataaa ggacattgtt accataggaa tgctgtcttt gccttgtggc
1140
tggcgatgta ca
1152
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<210> 5612
<211> 289
<212> PRT
<213> Homo sapiens
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<400> 5612
Met Lys Val Leu Gly Arg Ser Phe Phe Trp Val Leu Phe Pro Val Leu
1               5                   10                  15
Pro Trp Ala Val Gln Ala Val Glu His Glu Glu Val Ala Gln Arg Val
            20                  25                  30
Ile Lys Leu His Arg Gly Arg Gly Val Ala Ala Met Gln Ser Arg Gln
        35                  40                  45
Trp Val Arg Asp Ser Cys Arg Lys Leu Ser Gly Leu Leu Arg Gln Lys
    50                  55                  60
Asn Ala Val Leu Asn Lys Leu Lys Thr Ala Ile Gly Ala Val Glu Lys
65                  70                  75                  80
Asp Val Gly Leu Ser Asp Glu Glu Lys Leu Phe Gln Val His Thr Phe
```

```
                          85                    90                    95
Glu Ile Phe Gln Lys Glu Leu Asn Glu Ser Glu Asn Ser Val Phe Gln
                 100                   105                   110
Ala Val Tyr Gly Leu Gln Arg Ala Leu Gln Gly Asp Tyr Lys Asp Val
             115                   120                   125
Val Asn Met Lys Glu Ser Ser Arg Gln Arg Leu Glu Ala Leu Arg Glu
         130                   135                   140
Ala Ala Ile Lys Glu Glu Thr Glu Tyr Met Glu Leu Leu Ala Ala Glu
145                   150                   155                   160
Lys His Gln Val Glu Ala Leu Lys Asn Met Gln His Gln Asn Gln Ser
                 165                   170                   175
Leu Ser Met Leu Asp Glu Ile Leu Glu Asp Val Arg Lys Ala Ala Asp
             180                   185                   190
Arg Leu Glu Glu Glu Ile Glu Glu His Ala Phe Asp Asp Asn Lys Ser
         195                   200                   205
Val Lys Gly Val Asn Phe Glu Ala Val Leu Arg Val Glu Glu Glu Glu
         210                   215                   220
Ala Asn Ser Lys Gln Asn Ile Thr Lys Arg Glu Val Glu Asp Asp Leu
225                   230                   235                   240
Val Leu Ser Met Leu Ile Asp Ser Gln Asn Asn Gln Tyr Ile Leu Thr
                 245                   250                   255
Lys Pro Arg Asp Ser Thr Ile Pro Arg Ala Asp His His Phe Ile Lys
             260                   265                   270
Asp Ile Val Thr Ile Gly Met Leu Ser Leu Pro Cys Gly Trp Arg Cys
         275                   280                   285
Thr
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<210> 5613
<211> 1679
<212> DNA
<213> Homo sapiens

<400> 5613
ggctaaggct gcatcccagg tgagttcccc ccccccgtac cccggaggtt ttgttggtga
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gggttccggg gagcggcctg gagagaggtg gaggcgaagt ctagtttcgc ttcagggagg
120
ctcagaccct gtggggtcaa gtcggcggtg gaggccctag gctcagcctg tggggaccgg
180
cggggactcg gcctgggcag tcctgggaga agctgagccg gctctgcctg aagccagttc
240
tccttgtcgc aggtgctggt ggacagcgcg gaggaggggt ccctcgctgc ggcggcggag
300
ctggccgctc agaagcgcga acagagactg cgcaaattcc gggagctgca cctgatgcgg
360
aatgaagctc gtaaattaaa tcaccaggaa gttgtggaag aagataaaag actaaaatta
420
cctgcaaatt gggaagccaa aaaagctcgt ttggagtggg aactaaagga agaggaaaag
480
aaaaaggaat gtgcggcaag aggagaagac tatgagaaag tgaagttgct ggagatcagt
540
gcagaagatg cagaaagatg ggagaggaaa aagaagagga aaaaccctga tctgggattt
600
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tcagattatg ctgctgccca gttacgccag tatcatcggt tgaccaagca gatcaaacct
660
gacatggaaa catatgagag actgagagaa aaacatggag aagagttttt cccaacatcc
720
aatagtcttc ttcatggaac acatgtgcct tccacagagg aaattgacag gatggtcata
780
gatctggaaa aacagattga aaaacgagac aaatatagcc ggagacgtcc ttataatgat
840
gatgcagata tcgactacat taatgaaagg aatgccaaat tcaacaagaa agctgaaaga
900
ttctatggga aatacacagc tgaaattaaa cagaatttgg aaagaggaac agctgtctaa
960
tcccttcaag aactgtttat agaagcttga gaatggggta aaaatttctg ctagcaaaat
1020
caagttcttt ttgaaatttt atcagtaatc cagaatttag tagtccatgc cttctcactc
1080
agcatttaga aataaaaatg tggtttctta aacgtatatc ctttcatgta tatttccaca
1140
tttttgtgct tggatataag atgtatttct tgtagtgaag ttgttttgta atctactttg
1200
tatacattct aattatatta tttttctatg tattttaaat gtatatggct gtttaatctt
1260
tgaagcattt tgggcttaag attgccagca gcacacatca gatgcagtca ttgttgctat
1320
cagtgtggaa tttgatagag tctagactcg ggccacttgg agttgtgtac tccaaagcta
1380
aggacagtga tgaggaagat ggcagtggcc accggaggac tggagcagtc cctcctcatg
1440
gcggcctgtg accaaggtcg gggaggagtg gagctatcct tccatgatct gatcatgtac
1500
ttcggagaga ggctggagtg tgctaccgac gtcgaatatc catgcagtcg gttagaggct
1560
ggagtgtgct accgacgtcg aatatccatg cagactagaa aacccattat ctcagcccaa
1620
aatctcctta agctgataag caacttcagc aaagtctcag catacaaaat caatgtaca
1679
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```
<210> 5614
<211> 242
<212> PRT
<213> Homo sapiens
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<400> 5614
Ser Gln Phe Ser Leu Ser Gln Val Leu Val Asp Ser Ala Glu Glu Gly
1               5                  10                  15
Ser Leu Ala Ala Ala Ala Glu Leu Ala Ala Gln Lys Arg Glu Gln Arg
            20                  25                  30
Leu Arg Lys Phe Arg Glu Leu His Leu Met Arg Asn Glu Ala Arg Lys
        35                  40                  45
Leu Asn His Gln Glu Val Val Glu Glu Asp Lys Arg Leu Lys Leu Pro
    50                  55                  60
Ala Asn Trp Glu Ala Lys Lys Ala Arg Leu Glu Trp Glu Leu Lys Glu
65                  70                  75                  80
Glu Glu Lys Lys Lys Glu Cys Ala Ala Arg Gly Glu Asp Tyr Glu Lys
```

```
                      85                      90                      95
Val Lys Leu Leu Glu Ile Ser Ala Glu Asp Ala Glu Arg Trp Glu Arg
               100                     105                     110
Lys Lys Lys Arg Lys Asn Pro Asp Leu Gly Phe Ser Asp Tyr Ala Ala
           115                     120                     125
Ala Gln Leu Arg Gln Tyr His Arg Leu Thr Lys Gln Ile Lys Pro Asp
       130                     135                     140
Met Glu Thr Tyr Glu Arg Leu Arg Glu Lys His Gly Glu Glu Phe Phe
145                     150                     155                     160
Pro Thr Ser Asn Ser Leu Leu His Gly Thr His Val Pro Ser Thr Glu
               165                     170                     175
Glu Ile Asp Arg Met Val Ile Asp Leu Glu Lys Gln Ile Glu Lys Arg
               180                     185                     190
Asp Lys Tyr Ser Arg Arg Arg Pro Tyr Asn Asp Asp Ala Asp Ile Asp
           195                     200                     205
Tyr Ile Asn Glu Arg Asn Ala Lys Phe Asn Lys Lys Ala Glu Arg Phe
       210                     215                     220
Tyr Gly Lys Tyr Thr Ala Glu Ile Lys Gln Asn Leu Glu Arg Gly Thr
225                     230                     235                     240
Ala Val
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<210> 5615
<211> 1522
<212> DNA
<213> Homo sapiens

<400> 5615
ccggctgtat tatctggcta tttcaaacag tttcagaagt ctttacctcc acgattccag
60
cggcagcagg aacagatgaa acagcagcag tggcagcagc agcaacagca aggtgtactt
120
ccacagactg ttccttcaca accgtccagt agtactgtcc ctcctccacc acacagacct
180
ctttatcagc ctatgcagcc tcatcctcag catttggctt ctatgggttt tgatccaagg
240
tggctcatga tgcagtccta catggatcct cgaatgatgt caggaagacc tgctatggat
300
attccaccca ttcatcctgg aatgattcct cctaaaccat taatgagaag agaccagatg
360
gaagggtcac cgaacagttc tgagtcattt gagcatatag ctcgatctgc aagagatcac
420
gcaatttccc tttctgagcc tcgtatgctg tggggggtcag atccctatcc tcatgctgag
480
cctcaacaag caactactcc caaagcaaca gaagagcctg aggatgtaag gtctgaagct
540
gcgttggacc aggaacagat tactgctgct tattctgtag aacataatca attagaggct
600
cacccaaagg cagactttat cagagaatca agtgaggcac aagtacaaaa gtttttaagc
660
agatctgtgg aagatgttag acctcaccat actgatgcaa ataatcagtc tgcttgtttt
720
gaagcacctg atcaaaagac cttatccact cctcaagagg agcggatttc agctgtagaa
780
```

```
agtcagcctt cccggaaaag aagtgtttcc catggatcta accatacgca aaaaccagac
840
gagcagagaa gtgaaccatc tgcaggcatt cctaaagtaa ccagcagatg cattgattca
900
aaagaaccaa tagaaaggcc agaggagaaa ccaaaaaagg aaggctttat acgatcttct
960
gaaggaccaa aacctgaaaa agtatataaa tctaaatcag aaactcgttg gggcccacga
1020
ccaagctcta acagaaggga agaagttaat gatagacctg tgagaagatc aggtcccatt
1080
aaaaaacctg tacttagaga tatgaaagag gaacgggaac agaggaagga gaaagaagga
1140
gaaaaggccg aaaaggtcac tgaaaaagta gttgtaaagc ctgaaaagac ggaaaagaag
1200
gatcttcctc ctcccccacc accacctcag ccaccagcac caattcagcc acagtcagtt
1260
ccaccaccaa ttcaaccaga agcagagaaa tttccttcaa cagaaactgc aactttggct
1320
caaaaaccat ctcaggatac tgagaagcct ctggaacctg tgagtactgt tcaggtagag
1380
cctgcagtta agactgtaaa ccaacagact atggcagcac cagtagtcaa agaaaaagaa
1440
ctacaaaaga aagaagaaa gcaagaaaaa gaaaaagaac tagaacggca gaaagaaaag
1500
gaaaaagaac tacaaaaaaa aa
1522
```

<210> 5616
<211> 507
<212> PRT
<213> Homo sapiens

<400> 5616
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Pro Ala Val Leu Ser Gly Tyr Phe Lys Gln Phe Gln Lys Ser Leu Pro
1               5                   10                  15
Pro Arg Phe Gln Arg Gln Gln Glu Gln Met Lys Gln Gln Gln Trp Gln
            20                  25                  30
Gln Gln Gln Gln Gln Gly Val Leu Pro Gln Thr Val Pro Ser Gln Pro
            35                  40                  45
Ser Ser Ser Thr Val Pro Pro Pro His Arg Pro Leu Tyr Gln Pro
    50                  55                  60
Met Gln Pro His Pro Gln His Leu Ala Ser Met Gly Phe Asp Pro Arg
65                  70                  75                  80
Trp Leu Met Met Gln Ser Tyr Met Asp Pro Arg Met Met Ser Gly Arg
            85                  90                  95
Pro Ala Met Asp Ile Pro Pro Ile His Pro Gly Met Ile Pro Pro Lys
            100                 105                 110
Pro Leu Met Arg Arg Asp Gln Met Glu Gly Ser Pro Asn Ser Ser Glu
            115                 120                 125
Ser Phe Glu His Ile Ala Arg Ser Ala Arg Asp His Ala Ile Ser Leu
            130                 135                 140
Ser Glu Pro Arg Met Leu Trp Gly Ser Asp Pro Tyr Pro His Ala Glu
145                 150                 155                 160
Pro Gln Gln Ala Thr Thr Pro Lys Ala Thr Glu Glu Pro Glu Asp Val
```

```
                    165                     170                     175
Arg Ser Glu Ala Ala Leu Asp Gln Glu Gln Ile Thr Ala Ala Tyr Ser
                180                     185                     190
Val Glu His Asn Gln Leu Glu Ala His Pro Lys Ala Asp Phe Ile Arg
                195                     200                     205
Glu Ser Ser Glu Ala Gln Val Gln Lys Phe Leu Ser Arg Ser Val Glu
            210                     215                     220
Asp Val Arg Pro His His Thr Asp Ala Asn Asn Gln Ser Ala Cys Phe
225                     230                     235                     240
Glu Ala Pro Asp Gln Lys Thr Leu Ser Thr Pro Gln Glu Glu Arg Ile
                245                     250                     255
Ser Ala Val Glu Ser Gln Pro Ser Arg Lys Arg Ser Val Ser His Gly
                260                     265                     270
Ser Asn His Thr Gln Lys Pro Asp Glu Gln Arg Ser Glu Pro Ser Ala
            275                     280                     285
Gly Ile Pro Lys Val Thr Ser Arg Cys Ile Asp Ser Lys Glu Pro Ile
            290                     295                     300
Glu Arg Pro Glu Glu Lys Pro Lys Lys Glu Gly Phe Ile Arg Ser Ser
305                     310                     315                     320
Glu Gly Pro Lys Pro Glu Lys Val Tyr Lys Ser Lys Ser Glu Thr Arg
                325                     330                     335
Trp Gly Pro Arg Pro Ser Ser Asn Arg Arg Glu Glu Val Asn Asp Arg
                340                     345                     350
Pro Val Arg Arg Ser Gly Pro Ile Lys Lys Pro Val Leu Arg Asp Met
                355                     360                     365
Lys Glu Glu Arg Glu Gln Arg Lys Glu Lys Glu Gly Glu Lys Ala Glu
            370                     375                     380
Lys Val Thr Glu Lys Val Val Val Lys Pro Glu Lys Thr Glu Lys Lys
385                     390                     395                     400
Asp Leu Pro Pro Pro Pro Pro Pro Gln Pro Pro Ala Pro Ile Gln
                405                     410                     415
Pro Gln Ser Val Pro Pro Pro Ile Gln Pro Glu Ala Glu Lys Phe Pro
                420                     425                     430
Ser Thr Glu Thr Ala Thr Leu Ala Gln Lys Pro Ser Gln Asp Thr Glu
            435                     440                     445
Lys Pro Leu Glu Pro Val Ser Thr Val Gln Val Glu Pro Ala Val Lys
            450                     455                     460
Thr Val Asn Gln Gln Thr Met Ala Ala Pro Val Val Lys Glu Lys Glu
465                     470                     475                     480
Leu Gln Lys Lys Glu Arg Lys Gln Glu Lys Glu Lys Glu Leu Glu Arg
                485                     490                     495
Gln Lys Glu Lys Glu Lys Glu Leu Gln Lys Lys
            500                     505
```

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<210> 5617
<211> 3480
<212> DNA
<213> Homo sapiens

<400> 5617
nactcaagct gaatgcttta ttgtaatctc ccaaatcctg tggatagcgc ttaaagatta
60
aataagtttt cgtaggttat actatcattt tttttctga cttttagaaa aaaaatgatc
120
```

```
atttacttga ttttttttaa gttgtatttt taatttgaga ggatttcaca tgaactgtaa
180
tgtttgtgtt ttcagccagt gcacaaagac tctattagcc ttttcatggc acatgttcac
240
accactgtaa atgaaatgag taccagatat taccagaatg agagaagaca caactatacc
300
accccaaaga gttttctaga acaaatatca ctgtttaaga acctgttgaa gaagaagcaa
360
aatgaggtat ccgagaaaaa agaacgcctg gtgaacggca tccaaaagct aaaaaccaca
420
gcctctcagg tgggagatct aaaagccaga cttgcctctc aagaagccga gctgcaactg
480
agaaatcatg atgccgaagc tctgatcaca aagatcggcc ttcagacgga gaaagtgagc
540
cgggaaaaga ccatcgctga tgctgaggag cgaaaggtga cagccattca gactgaagtg
600
ttccagaaac agagagaatg tgaagctgac ttactcaagg ctgagcctgc actggtggct
660
gctacagctg cactcaatac actcaacagg gtcaacctca gtgagctgaa agcctttccc
720
aaccctccca tcgcagttac caatgttact gcagccgtga tggtccttct ggctcctcgg
780
ggaagagtgc ccaaagaccg aagttggaaa gcagctaaag tcttcatggg aaaggttgat
840
gattttttgc aagcattaat taactatgac aaagagcaca ttccagagaa ctgtctaaaa
900
gtggtgaatg aacactattt gaaagaccca gagtttaatc caaacctgat tcgaaccaaa
960
tcttttgcag cagctggcct gtgtgcctgg gtcatcaaca tcattaaatt ctatgaggtc
1020
tactgtgatg tggagccaaa acgccaagca ttagcccaag caaacttaga actggctgca
1080
gctactgaaa aactagaggc tatcaggaaa aagcttgtgg tgagtgcaaa ctatgacatt
1140
gaaaagtcag agaagattcg ctggggtcaa tccattaagt cctttgaagc tcaagagaag
1200
acactctgtg gagatgttct tctcacggcg gcatttgtgt cttacgtcgg acccttcaca
1260
aggcagtatc gccaggagct ggtgcactgc aagtgggttc cctttcttca acagaaggtt
1320
tccattccac taaccgaagg cctggacttg atatccatgt tgacggatga tgctacaatt
1380
gccgcctgga ataacgaagg actgcccagt gacagaatgt ccaccgaaaa tgccgctatc
1440
ctaacacact gtgagcgctg gcctctggtg atagatcccc agcaacaggg aattaagtgg
1500
atcaagaata agtatggaat ggacctgaaa gtcacacatt tgggccagaa agggttttg
1560
aatgccattg aaactgcttt ggcctttggt gatgtcatct taattgaaaa tctcgaggaa
1620
acgatagatc cagtcctgga tccactactt ggcaggaaca caattaaaaa aggaaagtat
1680
atcaggattg gagataaaga atgtgaattt aacaagaact ttcgccttat ccttcacaca
1740
```

```
aaattggcaa atcctcacta taagccggaa ttacaagctc agacaactct cctcaatttc
1800
acagtcacag aagatggtct agaagcccag ctgctggcag aggttgtcag tattgaaagg
1860
ccagatttgg agaaacttaa gttggtattg acaaagcacc aaaatgattt taaaattgag
1920
ctcaagtatc tggaagacga tctccttttg cgcctttctg cggcagaggg aagctttctg
1980
gatgacacca aactggtaga gagattggag gcaacaaaga ccaccgtggc agagatagag
2040
cacaaggtga ttgaagccaa agaaaatgaa agaaaaatca acgaggcccg agaatgttac
2100
agaccagtgg cagcaagagc atctcttctt tattttgtta ttaatgacct ccaaaaaatc
2160
aacccctct accaattctc tttgaaggct tttaacgtgc tgttccacag agcgatcgag
2220
caggctgaca aggtggaaga catgcaggga cgcatctcta tcctgatgga gagcatcacc
2280
catgctgtct tcctctacac cagccaggcg ctgtttgaga aggacaagct caccttcctg
2340
tcccagatgg cttttcagat tttgttgaga aagaaagaga tagaccctct tgaattggat
2400
ttcctgcttc gattcacagt tgaacacact catctgagtc ccgttgactt cctaacttct
2460
cagtcatgga gtgctatcaa ggcaattgcc gtcatggaag aatttcgagg catagaccga
2520
gatgtggaag gatctgccaa gcagtggagg aagtgggtag aatccgagtg tccagaaaaa
2580
gaaaaattac ctcaagaatg aagaagaaa agtttaatac agaagctgat tcttctgaga
2640
gcaatgcgcc ctgacagaat gacgtatgct ctcagaaatt ttgtagagga aaaactgggt
2700
gcgaagtatg tggagaggac cagattggac ttagttaaag cattcgaaga aagcagccca
2760
gccacccca tattcttcat cctgtctccg ggggtagatg cccttaaaga cctggagatt
2820
cttggcaaaa gacttggctt tacaattgac tctggaaaat tccacaatgt gtctttagga
2880
caaggtcagg agacggtggc agaagtggcc ctggagaaag cttccaaagg aggacactgg
2940
gtcatcctcc aaaatgttca tttggtagcc aagtggctag gaaccttgga gaagctcctt
3000
gaaagattca gccaaggaag ccacagagat tacagggttt tcatgagtgc tgagtctgca
3060
cctacaccag atgagcatat catccctcaa ggactcctgg aaaattccat taagatcact
3120
aatgaacccc caacagggat gctggccaat ttgcatgccg ccctgtacaa ctttgatcag
3180
gtaagaaagc gaagcaggct aggcagacaa tgaagtcaga gtcatctcac aagactgtgg
3240
ggcccagaat caacccaggc atgtcattga gagggatgaa gcaagttctt aatgttcgca
3300
tgtggaaggg tagggtgggg cgtgttttaa tctcttgaaa gaattgcccc tgtcatttcc
3360
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gattctaatg accagtaaat atatttcagt ctcaccctaa cattaagaaa acttcagcta
3420
ctgtgtaggg aaagctaact aggtaacttc ttgaggaggt tgctttttt tttttttttt
3480

<210> 5618
<211> 1003
<212> PRT
<213> Homo sapiens

<400> 5618
His Lys Asp Ser Ile Ser Leu Phe Met Ala His Val His Thr Thr Val
1   5   10   15
Asn Glu Met Ser Thr Arg Tyr Tyr Gln Asn Glu Arg Arg His Asn Tyr
            20   25   30
Thr Thr Pro Lys Ser Phe Leu Glu Gln Ile Ser Leu Phe Lys Asn Leu
            35   40   45
Leu Lys Lys Lys Gln Asn Glu Val Ser Glu Lys Lys Glu Arg Leu Val
        50   55   60
Asn Gly Ile Gln Lys Leu Lys Thr Thr Ala Ser Gln Val Gly Asp Leu
65   70   75   80
Lys Ala Arg Leu Ala Ser Gln Glu Ala Glu Leu Gln Leu Arg Asn His
                85   90   95
Asp Ala Glu Ala Leu Ile Thr Lys Ile Gly Leu Gln Thr Glu Lys Val
            100   105   110
Ser Arg Glu Lys Thr Ile Ala Asp Ala Glu Glu Arg Lys Val Thr Ala
            115   120   125
Ile Gln Thr Glu Val Phe Gln Lys Gln Arg Glu Cys Glu Ala Asp Leu
            130   135   140
Leu Lys Ala Glu Pro Ala Leu Val Ala Ala Thr Ala Ala Leu Asn Thr
145   150   155   160
Leu Asn Arg Val Asn Leu Ser Glu Leu Lys Ala Phe Pro Asn Pro Pro
                165   170   175
Ile Ala Val Thr Asn Val Thr Ala Ala Val Met Val Leu Leu Ala Pro
            180   185   190
Arg Gly Arg Val Pro Lys Asp Arg Ser Trp Lys Ala Ala Lys Val Phe
            195   200   205
Met Gly Lys Val Asp Asp Phe Leu Gln Ala Leu Ile Asn Tyr Asp Lys
            210   215   220
Glu His Ile Pro Glu Asn Cys Leu Lys Val Val Asn Glu His Tyr Leu
225   230   235   240
Lys Asp Pro Glu Phe Asn Pro Asn Leu Ile Arg Thr Lys Ser Phe Ala
                245   250   255
Ala Ala Gly Leu Cys Ala Trp Val Ile Asn Ile Ile Lys Phe Tyr Glu
                260   265   270
Val Tyr Cys Asp Val Glu Pro Lys Arg Gln Ala Leu Ala Gln Ala Asn
            275   280   285
Leu Glu Leu Ala Ala Ala Thr Glu Lys Leu Glu Ala Ile Arg Lys Lys
            290   295   300
Leu Val Val Ser Ala Asn Tyr Asp Ile Glu Lys Ser Glu Lys Ile Arg
305   310   315   320
Trp Gly Gln Ser Ile Lys Ser Phe Glu Ala Gln Glu Lys Thr Leu Cys
                325   330   335
Gly Asp Val Leu Leu Thr Ala Ala Phe Val Ser Tyr Val Gly Pro Phe

```
                    340                    345                    350
Thr Arg Gln Tyr Arg Gln Glu Leu Val His Cys Lys Trp Val Pro Phe
        355                    360                    365
Leu Gln Gln Lys Val Ser Ile Pro Leu Thr Glu Gly Leu Asp Leu Ile
    370                    375                    380
Ser Met Leu Thr Asp Asp Ala Thr Ile Ala Ala Trp Asn Asn Glu Gly
385                    390                    395                    400
Leu Pro Ser Asp Arg Met Ser Thr Glu Asn Ala Ala Ile Leu Thr His
                405                    410                    415
Cys Glu Arg Trp Pro Leu Val Ile Asp Pro Gln Gln Gln Gly Ile Lys
            420                    425                    430
Trp Ile Lys Asn Lys Tyr Gly Met Asp Leu Lys Val Thr His Leu Gly
        435                    440                    445
Gln Lys Gly Phe Leu Asn Ala Ile Glu Thr Ala Leu Ala Phe Gly Asp
    450                    455                    460
Val Ile Leu Ile Glu Asn Leu Glu Glu Thr Ile Asp Pro Val Leu Asp
465                    470                    475                    480
Pro Leu Leu Gly Arg Asn Thr Ile Lys Lys Gly Lys Tyr Ile Arg Ile
                485                    490                    495
Gly Asp Lys Glu Cys Glu Phe Asn Lys Asn Phe Arg Leu Ile Leu His
            500                    505                    510
Thr Lys Leu Ala Asn Pro His Tyr Lys Pro Glu Leu Gln Ala Gln Thr
        515                    520                    525
Thr Leu Leu Asn Phe Thr Val Thr Glu Asp Gly Leu Glu Ala Gln Leu
    530                    535                    540
Leu Ala Glu Val Val Ser Ile Glu Arg Pro Asp Leu Glu Lys Leu Lys
545                    550                    555                    560
Leu Val Leu Thr Lys His Gln Asn Asp Phe Lys Ile Glu Leu Lys Tyr
                565                    570                    575
Leu Glu Asp Asp Leu Leu Leu Arg Leu Ser Ala Ala Glu Gly Ser Phe
            580                    585                    590
Leu Asp Asp Thr Lys Leu Val Glu Arg Leu Glu Ala Thr Lys Thr Thr
        595                    600                    605
Val Ala Glu Ile Glu His Lys Val Ile Glu Ala Lys Glu Asn Glu Arg
    610                    615                    620
Lys Ile Asn Glu Ala Arg Glu Cys Tyr Arg Pro Val Ala Ala Arg Ala
625                    630                    635                    640
Ser Leu Leu Tyr Phe Val Ile Asn Asp Leu Gln Lys Ile Asn Pro Leu
                645                    650                    655
Tyr Gln Phe Ser Leu Lys Ala Phe Asn Val Leu Phe His Arg Ala Ile
            660                    665                    670
Glu Gln Ala Asp Lys Val Glu Asp Met Gln Gly Arg Ile Ser Ile Leu
        675                    680                    685
Met Glu Ser Ile Thr His Ala Val Phe Leu Tyr Thr Ser Gln Ala Leu
    690                    695                    700
Phe Glu Lys Asp Lys Leu Thr Phe Leu Ser Gln Met Ala Phe Gln Ile
705                    710                    715                    720
Leu Leu Arg Lys Lys Glu Ile Asp Pro Leu Glu Leu Asp Phe Leu Leu
                725                    730                    735
Arg Phe Thr Val Glu His Thr His Leu Ser Pro Val Asp Phe Leu Thr
            740                    745                    750
Ser Gln Ser Trp Ser Ala Ile Lys Ala Ile Ala Val Met Glu Glu Phe
        755                    760                    765
Arg Gly Ile Asp Arg Asp Val Glu Gly Ser Ala Lys Gln Trp Arg Lys
```

```
         770                     775                     780
Trp Val Glu Ser Glu Cys Pro Glu Lys Glu Lys Leu Pro Gln Glu Trp
785                     790                     795                     800
Lys Lys Lys Ser Leu Ile Gln Lys Leu Ile Leu Leu Arg Ala Met Arg
              805                     810                     815
Pro Asp Arg Met Thr Tyr Ala Leu Arg Asn Phe Val Glu Glu Lys Leu
              820                     825                     830
Gly Ala Lys Tyr Val Glu Arg Thr Arg Leu Asp Leu Val Lys Ala Phe
              835                     840                     845
Glu Glu Ser Ser Pro Ala Thr Pro Ile Phe Phe Ile Leu Ser Pro Gly
          850                     855                     860
Val Asp Ala Leu Lys Asp Leu Glu Ile Leu Gly Lys Arg Leu Gly Phe
865                     870                     875                     880
Thr Ile Asp Ser Gly Lys Phe His Asn Val Ser Leu Gly Gln Gly Gln
              885                     890                     895
Glu Thr Val Ala Glu Val Ala Leu Glu Lys Ala Ser Lys Gly Gly His
          900                     905                     910
Trp Val Ile Leu Gln Asn Val His Leu Val Ala Lys Trp Leu Gly Thr
              915                     920                     925
Leu Glu Lys Leu Leu Glu Arg Phe Ser Gln Gly Ser His Arg Asp Tyr
          930                     935                     940
Arg Val Phe Met Ser Ala Glu Ser Ala Pro Thr Pro Asp Glu His Ile
945                     950                     955                     960
Ile Pro Gln Gly Leu Leu Glu Asn Ser Ile Lys Ile Thr Asn Glu Pro
              965                     970                     975
Pro Thr Gly Met Leu Ala Asn Leu His Ala Ala Leu Tyr Asn Phe Asp
          980                     985                     990
Gln Val Arg Lys Arg Ser Arg Leu Gly Arg Gln
          995                     1000
```

<210> 5619
<211> 1219
<212> DNA
<213> Homo sapiens

<400> 5619
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aagccggaga gctggagctt tgaagccacc ccggtcaaag gatgctgagt ccggagcgcc
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tagccctacc ggactacgag tatctggctc agcgacatgt cctcacctac atggaggatg
120
cagtgtgcca gctgctagaa aacagggaag atattagcca atatggaatt gccaggttct
180
tcactgaata tttttaacagt gtatgccagg gaacacacat tctctttcga gaattcagct
240
tcgtccaagc cacccccccac aatagggtat cattttacg ggccttctgg agatgcttcc
300
gaactgtggg caaaaatggc gatttgctga ccatgaaaga atatcactgt ttgctgcaat
360
tactgtgtcc tgatttcccg ctggagctca ctcagaaagc agccaggatt gtgctcatgg
420
acgatgccat ggactgcttg atgtcttttt cagatttcct ctttgccttc cagatccagt
480
tttactactc agaattcctg gacagtgtgg ctgccatcta tgaggacctg ctgtcaggca
540
```

```
agaaccccaa cacagtgatt gtgccgacgt cgtccagtgg gcagcaccgc caacgacctg
600
ccttgggcgg ggccggcacg ctggagggcg tggaggcgtc gctgttctac cagtgtctgg
660
aaaacctgtg tgatcggcac aagtacagct gcccacccccc agcacttgtc aaagaggccc
720
tcagcaatgt tcagagactg accttctatg gattcctcat ggctctctca aagcaccgtg
780
gaatcaacca agccctcggt aagtcagagc taagcagccg tcagcctctc ctgccgcaca
840
acacagggag cagctggcct ctgttagcaa cacggctcca gaggggaagg ggcatcacca
900
tctctgcctt gacttcccag ggccggactc aatcccaggg agcaggaata tggcgacaaa
960
acatggctct tacacattcc catggtaggg gacagccctc cctgcctgca gccctgcccc
1020
aacatgaaac cacctcccca tagcagaagc gcccagcccc tcctcagaga accccagctc
1080
tgctttgggg agcagcctgc aggtcgggca gacacaggac tatttactca gtgacgctag
1140
agattatata tcagagagac ctgaatccca tttataaaca aggcaaaggt gtgtctgcgg
1200
agacctttttt tccaagctg
1219


<210> 5620
<211> 333
<212> PRT
<213> Homo sapiens

<400> 5620
Met Leu Ser Pro Glu Arg Leu Ala Leu Pro Asp Tyr Glu Tyr Leu Ala
 1               5                  10                  15
Gln Arg His Val Leu Thr Tyr Met Glu Asp Ala Val Cys Gln Leu Leu
                20                  25                  30
Glu Asn Arg Glu Asp Ile Ser Gln Tyr Gly Ile Ala Arg Phe Phe Thr
            35                  40                  45
Glu Tyr Phe Asn Ser Val Cys Gln Gly Thr His Ile Leu Phe Arg Glu
        50                  55                  60
Phe Ser Phe Val Gln Ala Thr Pro His Asn Arg Val Ser Phe Leu Arg
65                  70                  75                  80
Ala Phe Trp Arg Cys Phe Arg Thr Val Gly Lys Asn Gly Asp Leu Leu
                85                  90                  95
Thr Met Lys Glu Tyr His Cys Leu Leu Gln Leu Leu Cys Pro Asp Phe
                100                 105                 110
Pro Leu Glu Leu Thr Gln Lys Ala Ala Arg Ile Val Leu Met Asp Asp
            115                 120                 125
Ala Met Asp Cys Leu Met Ser Phe Ser Asp Phe Leu Phe Ala Phe Gln
        130                 135                 140
Ile Gln Phe Tyr Tyr Ser Glu Phe Leu Asp Ser Val Ala Ala Ile Tyr
145                 150                 155                 160
Glu Asp Leu Leu Ser Gly Lys Asn Pro Asn Thr Val Ile Val Pro Thr
                165                 170                 175
Ser Ser Ser Gly Gln His Arg Gln Arg Pro Ala Leu Gly Gly Ala Gly
```

```
                 180                    185                    190
Thr Leu Glu Gly Val Glu Ala Ser Leu Phe Tyr Gln Cys Leu Glu Asn
         195                    200                    205
Leu Cys Asp Arg His Lys Tyr Ser Cys Pro Pro Pro Ala Leu Val Lys
         210                    215                    220
Glu Ala Leu Ser Asn Val Gln Arg Leu Thr Phe Tyr Gly Phe Leu Met
225                    230                    235                    240
Ala Leu Ser Lys His Arg Gly Ile Asn Gln Ala Leu Gly Lys Ser Glu
                 245                    250                    255
Leu Ser Ser Arg Gln Pro Leu Leu Pro His Asn Thr Gly Ser Ser Trp
                 260                    265                    270
Pro Leu Leu Ala Thr Arg Leu Gln Arg Gly Arg Gly Ile Thr Ile Ser
         275                    280                    285
Ala Leu Thr Ser Gln Gly Arg Thr Gln Ser Gln Gly Ala Gly Ile Trp
         290                    295                    300
Arg Gln Asn Met Ala Leu Thr His Ser His Gly Arg Gly Gln Pro Ser
305                    310                    315                    320
Leu Pro Ala Ala Leu Pro Gln His Glu Thr Thr Ser Pro
                 325                    330
```

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<210> 5621
<211> 456
<212> DNA
<213> Homo sapiens

<400> 5621
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gccggccggg ctcacatggt ttgtacaata aatacatctg tggggcgggc tctccgcagc
120
cgggaagggc caccgccacg gttcagtcca gcttccgggc tcccagcttc atggggccct
180
tggccacctt cctctcggcg cgtttggcct ccatctcccg ccgccgctcc tcgcgcttct
240
tccgggccag ctcagccttg acctgtcctg ggtgctggga cgtgcagaca gggtagcgaa
300
ggggtcgccc ttgtcgctgg actctgggcc accccagtta tactcgctgg ccagccgtgt
360
accgtcagga ggtggctcct gggagcttgg ctgaacccgt ggcggtggcc cttcccggct
420
gcggagagcc cgccccacag atgtatttat tgtaca
456
```

```
<210> 5622
<211> 82
<212> PRT
<213> Homo sapiens

<400> 5622
                                              10                  15
Met Ala Trp Leu Gly Arg Pro Gly Ser His Gly Leu Tyr Asn Lys Tyr
1            5                   10                  15
Ile Cys Gly Ala Gly Ser Pro Gln Pro Gly Arg Ala Thr Ala Thr Val
         20                    25                    30
Gln Ser Ser Phe Arg Ala Pro Ser Phe Met Gly Pro Leu Ala Thr Phe
```

```
                35                    40                    45
Leu Ser Ala Arg Leu Ala Ser Ile Ser Arg Arg Arg Ser Ser Arg Phe
    50                    55                    60
Phe Arg Ala Ser Ser Ala Leu Thr Cys Pro Gly Cys Trp Asp Val Gln
65                    70                    75                    80
Thr Gly
```

```
<210> 5623
<211> 357
<212> DNA
<213> Homo sapiens
```

```
<400> 5623
nctggaagaa ctcgtcatgc tctttgtagc gtggtgcttc tgttgctcac aggacaactt
60
gcctttgatg attttcaaga gagttgtgct atgatgtggc aaaagtatgc aggaagcagg
120
cggtcaatgc ctctgggagc aaggatcctt ttccacggtg tgttctatgc cggggggcttt
180
gccattgtgt attacctcat tcaaaagttt cattccaggg ctttatatta caagttggca
240
gtggagcagc tgcagagcca tcccgaggca caggaagctc tgggccctcc tctcaacatc
300
cattatctca agctcatcga cagggaaaac ttcgtggaca ttgttgatgc caagttg
357
```

```
<210> 5624
<211> 88
<212> PRT
<213> Homo sapiens
```

```
<400> 5624
Met Trp Gln Lys Tyr Ala Gly Ser Arg Arg Ser Met Pro Leu Gly Ala
  1                 5                  10                  15
Arg Ile Leu Phe His Gly Val Phe Tyr Ala Gly Gly Phe Ala Ile Val
            20                  25                  30
Tyr Tyr Leu Ile Gln Lys Phe His Ser Arg Ala Leu Tyr Tyr Lys Leu
        35                  40                  45
Ala Val Glu Gln Leu Gln Ser His Pro Glu Ala Gln Glu Ala Leu Gly
    50                  55                  60
Pro Pro Leu Asn Ile His Tyr Leu Lys Leu Ile Asp Arg Glu Asn Phe
65                  70                  75                  80
Val Asp Ile Val Asp Ala Lys Leu
                85
```

```
<210> 5625
<211> 1017
<212> DNA
<213> Homo sapiens
```

```
<400> 5625
gccgactcgt ggtacctggc gcttctgggc ttcgctgagc acttccgcac ttccagcccg
60
```

```
cccaaaatcc gcctgtgcgt gcactgcctg caggccgtgt tccccttcaa gccgccgcag
120
cgcatcgagg cccgtacaca cctgcagctg ggctccgttc tctatcacca caccaagaac
180
agcgagcagg cgcgcagcca cctggagaag gcgtggttga tatcacagca aatcccacag
240
ttcgaagatg ttaaatttga agcagcaagt ctgttgtctg aattgtactg tcaagagaat
300
tccgttgatg cagcaaagcc gctgctgcgg aaggcgatcc agatctcaca gcagacccca
360
tattggcact gccgcctgct cttccagctc gctcaactgc acacgcttga gaaggacctg
420
gtgtcggcct gtgacctcct gggtgtaggg gccgagtacg cccgggtggt gggatctgaa
480
tacacacggg cgctgttcct cctcagcaag gggatgctgc tgctgatgga gcgaaagctg
540
caggaggtgc acccgctgct gaccctctgc gggcagatcg tggagaactg gcaggggaac
600
cccatccaga aggagtcgct gcgtgtcttc ttcctggtgc tccaggtcac ccactatctg
660
gatgccgggc aggtgaagag cgtgaagccg tgtctgaagc agctgcagca gtgcatccag
720
accatctcca cactgcacga tgatgagatc ctgcccagca accccgctga cctcttccac
780
tggctgccca aggagcacat gtgtgtgctt gtctacctgg tgactgtgat gcactccatg
840
caggccggct acctggagaa ggcgcagaag tacacggaca aggccctcat gcagctggag
900
aagctcaaga tgctggactg cagccccatc ctgtcatcct tccaagtgat cctgctggag
960
cacatcatca tgtgccgcct tgtcacgggt cacaaggcca cggcgctgca ggagatc
1017


<210> 5626
<211> 339
<212> PRT
<213> Homo sapiens

<400> 5626
Ala Asp Ser Trp Tyr Leu Ala Leu Leu Gly Phe Ala Glu His Phe Arg
1               5                   10                  15
Thr Ser Ser Pro Pro Lys Ile Arg Leu Cys Val His Cys Leu Gln Ala
            20                  25                  30
Val Phe Pro Phe Lys Pro Pro Gln Arg Ile Glu Ala Arg Thr His Leu
        35                  40                  45
Gln Leu Gly Ser Val Leu Tyr His His Thr Lys Asn Ser Glu Gln Ala
    50                  55                  60
Arg Ser His Leu Glu Lys Ala Trp Leu Ile Ser Gln Gln Ile Pro Gln
65                  70                  75                  80
Phe Glu Asp Val Lys Phe Glu Ala Ala Ser Leu Leu Ser Glu Leu Tyr
                85                  90                  95
Cys Gln Glu Asn Ser Val Asp Ala Ala Lys Pro Leu Leu Arg Lys Ala
            100                 105                 110
Ile Gln Ile Ser Gln Gln Thr Pro Tyr Trp His Cys Arg Leu Leu Phe
```

```
            115                      120                      125
Gln Leu Ala Gln Leu His Thr Leu Glu Lys Asp Leu Val Ser Ala Cys
    130                      135                      140
Asp Leu Leu Gly Val Gly Ala Glu Tyr Ala Arg Val Val Gly Ser Glu
145                      150                      155                      160
Tyr Thr Arg Ala Leu Phe Leu Leu Ser Lys Gly Met Leu Leu Leu Met
                165                      170                      175
Glu Arg Lys Leu Gln Glu Val His Pro Leu Leu Thr Leu Cys Gly Gln
            180                      185                      190
Ile Val Glu Asn Trp Gln Gly Asn Pro Ile Gln Lys Glu Ser Leu Arg
            195                      200                      205
Val Phe Phe Leu Val Leu Gln Val Thr His Tyr Leu Asp Ala Gly Gln
    210                      215                      220
Val Lys Ser Val Lys Pro Cys Leu Lys Gln Leu Gln Gln Cys Ile Gln
225                      230                      235                      240
Thr Ile Ser Thr Leu His Asp Asp Glu Ile Leu Pro Ser Asn Pro Ala
                245                      250                      255
Asp Leu Phe His Trp Leu Pro Lys Glu His Met Cys Val Leu Val Tyr
            260                      265                      270
Leu Val Thr Val Met His Ser Met Gln Ala Gly Tyr Leu Glu Lys Ala
        275                      280                      285
Gln Lys Tyr Thr Asp Lys Ala Leu Met Gln Leu Glu Lys Leu Lys Met
    290                      295                      300
Leu Asp Cys Ser Pro Ile Leu Ser Ser Phe Gln Val Ile Leu Leu Glu
305                      310                      315                      320
His Ile Ile Met Cys Arg Leu Val Thr Gly His Lys Ala Thr Ala Leu
                325                      330                      335
Gln Glu Ile
```

```
<210> 5627
<211> 1401
<212> DNA
<213> Homo sapiens
```

```
<400> 5627
nctctcacac tgtggaattc tctctatcag cctcaaagtc cagatttgga aagggagtct
60
cagcgagggg cagcagctgg cccaacccgg aggcagagcg gcaactgaac tctagccgga
120
aagagccagg gttatgtgca catgggaggt ggggaggaca ggggctgtat gtgaccctca
180
catctgttcc tcgcgcccca gatggcttct gctgcctgct ccatggaccc catcgacagc
240
tttgagctcc tggatctcct gtttgaccgg caggacggca tcctgagaca cgtggagctg
300
ggcgagggct ggggtcacgt caaggaccag gtcctgccaa accccgactc tgacgacttc
360
ctcagctcca tcctgggctc tggagactca ctgcccagct ccccactctg gtcccccgaa
420
ggcagtgata gtggcatctc cgaagacctc ccctccgacc cccaggacac ccctccacgc
480
agcggaccag ccacctcccc cgccggctgc catcctgccc agcctggcaa ggggccctgc
540
```

```
ctctcctatc atcctggcaa ctcttgctcc accacaaccc cagggccagt gatccaacaa
600
cagcatcacc tgggggcctc ctacctcctg cgacctgggg ctgggcactg tcaggagctg
660
gtgctcaccg aggatgagaa gaagctgctg gctaaagaag gcatcaccct gcccactcag
720
ctgcccctca ctaagtacga ggagcgagtg ctgaaaaaaa tccgccggaa aatccggaac
780
aagcagtcgg cgcaagaaag caggaagaag aagaaggaat atatcgatgg cctggagact
840
cggtcctgtt gctgtccttt gccctcatca tcctcccctc catcagccct tttggcccca
900
acaaaaccga gagccctggg gactttgcgc ctgtacgagt gttctccaga actttgcaca
960
acgatgctgc ctcccgcgtg gctgctgatg ctgtgccagg ctccgaggcc ccaggacccc
1020
gacccgaggc tgacacaacc cgagaagagt ctccaggaag ccccgggggca gactgggggct
1080
tccaggacac cgcgaacctg accaattcga cggaggagct ggacaacgcc accctggtcc
1140
tgaggaatgc aacagagggg ctgggccagg tcgccctgct ggactgggtg gcgcctgggc
1200
cgagcactgg ctcaggacgt gcagggctgg aggcggcggg agacgagctg tgagccccac
1260
caggactatg ctcccaggcc cctctgccca ggggtgcctt ggggatgctg cactgggcag
1320
ctacccacct ggggatggga cgtgaggcca agaccccagc agagatgcca gaatgggggga
1380
ggcacagctc atagccacac a
1401


<210> 5628
<211> 299
<212> PRT
<213> Homo sapiens

<400> 5628
Met Ala Ser Ala Ala Cys Ser Met Asp Pro Ile Asp Ser Phe Glu Leu
1               5                   10                  15
Leu Asp Leu Leu Phe Asp Arg Gln Asp Gly Ile Leu Arg His Val Glu
            20                  25                  30
Leu Gly Glu Gly Trp Gly His Val Lys Asp Gln Val Leu Pro Asn Pro
        35                  40                  45
Asp Ser Asp Asp Phe Leu Ser Ser Ile Leu Gly Ser Gly Asp Ser Leu
    50                  55                  60
Pro Ser Ser Pro Leu Trp Ser Pro Glu Gly Ser Asp Ser Gly Ile Ser
65                  70                  75                  80
Glu Asp Leu Pro Ser Asp Pro Gln Asp Thr Pro Pro Arg Ser Gly Pro
                85                  90                  95
Ala Thr Ser Pro Ala Gly Cys His Pro Ala Gln Pro Gly Lys Gly Pro
            100                 105                 110
Cys Leu Ser Tyr His Pro Gly Asn Ser Cys Ser Thr Thr Thr Pro Gly
        115                 120                 125
Pro Val Ile Gln Gln Gln His His Leu Gly Ala Ser Tyr Leu Leu Arg
```

```
          130                     135                     140
Pro Gly Ala Gly His Cys Gln Glu Leu Val Leu Thr Glu Asp Glu Lys
145                     150                     155                     160
Lys Leu Leu Ala Lys Glu Gly Ile Thr Leu Pro Thr Gln Leu Pro Leu
                165                     170                     175
Thr Lys Tyr Glu Glu Arg Val Leu Lys Lys Ile Arg Arg Lys Ile Arg
                180                     185                     190
Asn Lys Gln Ser Ala Gln Glu Ser Arg Lys Lys Lys Glu Tyr Ile
            195                     200                     205
Asp Gly Leu Glu Thr Arg Ser Cys Cys Cys Pro Leu Pro Ser Ser Ser
        210                     215                     220
Ser Pro Pro Ser Ala Leu Leu Ala Pro Thr Lys Pro Arg Ala Leu Gly
225                     230                     235                     240
Thr Leu Arg Leu Tyr Glu Cys Ser Pro Glu Leu Cys Thr Thr Met Leu
                245                     250                     255
Pro Pro Ala Trp Leu Leu Met Leu Cys Gln Ala Pro Arg Pro Gln Asp
                260                     265                     270
Pro Asp Pro Arg Leu Thr Gln Pro Glu Lys Ser Leu Gln Glu Ala Pro
            275                     280                     285
Gly Gln Thr Gly Ala Ser Arg Thr Pro Arg Thr
            290                     295
```

```
<210> 5629
<211> 428
<212> DNA
<213> Homo sapiens
```

```
<400> 5629
gtgcacgacc ccactgaatc atcccacaac catggatggg agacacactc agtctccttt
60
aacagaagat aaagctgggg cttacagaga atgtacaact tggcccaggg cacaccagtt
120
agccatcagg ggcagngctg ctattcaggt ctgggactgt gggactccag agcccatgtt
180
ttttacgagg atgccatact gccacaatgg atggtgtctt tatctcctga tatatgattg
240
tgtgttggga ggcgtggggt ggcagctgga agaatggaga ggcatatttg tggaggatct
300
tcccccattc tctgctaccc tctcttggag ctcccagttc catctgagaa attatctact
360
ctgagaaatc gtcacaacac agcatggttg tgagtgcagt ggcagaagcc tgtgcctggt
420
tgtatggg
428
```

```
<210> 5630
<211> 110
<212> PRT
<213> Homo sapiens
```

```
<400> 5630
Met Asp Gly Arg His Thr Gln Ser Pro Leu Thr Glu Asp Lys Ala Gly
1                   5                   10                  15
Ala Tyr Arg Glu Cys Thr Thr Trp Pro Arg Ala His Gln Leu Ala Ile
```

```
                    20                     25                     30
Arg Gly Xaa Ala Ala Ile Gln Val Trp Asp Cys Gly Thr Pro Glu Pro
            35                     40                     45
Met Phe Phe Thr Arg Met Pro Tyr Cys His Asn Gly Trp Cys Leu Tyr
        50                     55                     60
Leu Leu Ile Tyr Asp Cys Val Leu Gly Gly Val Gly Trp Gln Leu Glu
65                     70                     75                     80
Glu Trp Arg Gly Ile Phe Val Glu Asp Leu Pro Pro Phe Ser Ala Thr
                85                     90                     95
Leu Ser Trp Ser Ser Gln Phe His Leu Arg Asn Tyr Leu Leu
            100                    105                    110
```

<210> 5631
<211> 783
<212> DNA
<213> Homo sapiens

<400> 5631
```
acgcgtgccc agcacatgtg tgcacacgca gatgcaggag agaacacaca ccaccgtctc
60
tttgcacacg tgtgcccctg tccggcccgg ggggctcatc tctccttcac ggagagaatt
120
ctttttatta cgagtgaaca gatgaactaa ggtaagcggg tctcagcctt ccgctggtgc
180
agcatctcca cgcagggcct cagccccgtc ctggccttgc ctgaggactg caccatgggt
240
gttccttggg catggaggag gcagcaggaa ggggtgacag gagcaggagc aggtgcaggg
300
cacctcacac cacaggcctc ccccacctct gagctgccaa cagccaagac tcctggcgag
360
gccgggagag gaggggtgag agggaaggag ggtctctgtg aaagcaagcc ccacccccag
420
agcagagcag agacccaggt ctgcaaatca caccctcccc ccacgagttc ctcctttgag
480
gccagcagca cccgagggag ggcaggggct gcacagagac cagagaaagg aaaaccccac
540
agaagaaaac tcaaagcatc agtcccatgc gtgtctgctg aacgagtgaa tgggcccaaa
600
ggctcttctc tacaaacggc acgcatccat ccgacagggg gccacaggac acggccgggg
660
ccgtctgcgt ctgtgcctgt gcagcccaca ccagtgcagc ccggggccct ctcagacctc
720
accacacgcg tgcccagcac atgtgtgcac acgcagatgc aggagagaac acacaccacc
780
gtc
783
```

<210> 5632
<211> 183
<212> PRT
<213> Homo sapiens

<400> 5632
Met Gly Val Pro Trp Ala Trp Arg Arg Gln Gln Glu Gly Val Thr Gly

```
   1                     5                    10                   15
Ala Gly Ala Gly Ala Gly His Leu Thr Pro Gln Ala Ser Pro Thr Ser
                20                   25                   30
Glu Leu Pro Thr Ala Lys Thr Pro Gly Glu Ala Gly Arg Gly Gly Val
            35                   40                   45
Arg Gly Lys Glu Gly Leu Cys Glu Ser Lys Pro His Pro Gln Ser Arg
        50                   55                   60
Ala Glu Thr Gln Val Cys Lys Ser His Pro Pro Thr Ser Ser Ser
65                   70                   75                   80
Phe Glu Ala Ser Ser Thr Arg Gly Arg Ala Gly Ala Ala Gln Arg Pro
                85                   90                   95
Glu Lys Gly Lys Pro His Arg Arg Lys Leu Lys Ala Ser Val Pro Cys
            100                  105                  110
Val Ser Ala Glu Arg Val Asn Gly Pro Lys Gly Ser Ser Leu Gln Thr
            115                  120                  125
Ala Arg Ile His Pro Thr Gly Gly His Arg Thr Arg Pro Gly Pro Ser
        130                  135                  140
Ala Ser Val Pro Val Gln Pro Thr Pro Val Gln Pro Gly Ala Leu Ser
145                  150                  155                  160
Asp Leu Thr Thr Arg Val Pro Ser Thr Cys Val His Thr Gln Met Gln
                165                  170                  175
Glu Arg Thr His Thr Thr Val
                180
```

```
<210> 5633
<211> 2181
<212> DNA
<213> Homo sapiens

<400> 5633
gccaatgtcc ctgtggccac tcagctgaga ccgagggcga cctgggcagc tgcgggtgtc
60
tgtcacctcc gtgtcccaca tagatgccag gctctgcttc tgtggttctg gaggtcatta
120
gtcaattgta tgtggtgctg tctgtcctcc tgattgcaga ggaggaagga accccttaaa
180
tgagcgggtt ctgagtgctg gggccgctgg tctgctctgc ctggtgggat tctccagtgc
240
tggcttcatc tgtgccccag ccccactctc accaacaagg agggcgtgaa aatgacaagg
300
aatccatccc tagagttcac aggagatcta gggcagagtt ccaagctgc agctgctctg
360
gccctgtgtg agctgctgct ctgaggaagc cccaggctga ggtagctacc aggcggaggc
420
tgggtttgga ggcctccaca tcagggaatt gagcggtagg ggtttcagcc ttcacgttgg
480
tcgccgcact gtatgggaag tggggtctgg ggtctgcttg cccagtctca ccgtcctctt
540
cctccccaaa gccgcctgga taaggggctg ccgcactgg tgcgggagcg tggcgcggat
600
ctggtggtca tcgagggcat gggccgtgct gtccacacaa actaccacgc agccctgcgc
660
tgcgagagcc tcaagctggc cgtcatcaag aacgcgtggc tggccgagcg gctgggcggc
720
```

```
cggctcttca gcgccatctt caagtacgag gtcccagccg agtgaggcgc tgcagctgcc
780
ggactcttct gcttgtcact tgtccgagtg gcttcagaga ttaaaggggc cccctcataa
840
atgtgcctta attttcgcag ataacagggg gaatagacat cattttggga gtcttcccct
900
ttgtcaggga gctactcctt agagggacag aggtcatcct ggcgtgcaac tcaggccccg
960
ccctgaacga cgtgacccac agcgagtccc tcatcgtggc agagcgtatt gcgggcatgg
1020
accctgaccg tgcgcagcct gctggacacc agggagcact gtctgaacga gttcaacttc
1080
ccggatccct actccaaagt gaagcagcgg gagaatggcg tggcgctgag gtgcttcccc
1140
ggggtcgtgc gctccctgga cgcgctgggc tgggaggaac ggcagctggc gctggtgaaa
1200
ggcctcctgg cggggaatgt cttcgactgg ggggccaaag ccgtgtctgc tgtccttgaa
1260
tccgaccccт actttgggtt tgaagaagca aagaggaagt tacaagaaag accctggctc
1320
gtggattcct acagcgagtg gcttcagaga ttaaaggggc cccctcataa atgtgcctta
1380
attttcgcag ataacagtgg aatagacatc attttgggag tcttccccтt tgtcagggag
1440
ctactcctta gagggacaga ggtcatcctg gcgtgcaact caggccccgc cctgaacgac
1500
gtgacccaca gcgagtccct catcgtggca gagcgtattg cgggcatgga ccctgtcgtg
1560
cactctgcgc tccaggaaga gaggctgctg ctggtgcaga cgggctccag ctccccgtgc
1620
ctcgacctca gccgcctgga taaggggctg ccgcactgg tgcgggagcg tggcgcggat
1680
ctggtggtca tcgagggcat gggccgtgct gtccacacaa actaccacgc agccctgcgc
1740
tgcgagagcc tcaagctggc cgtcatcaag aacgcgtggc tggccgagcg gctgggcggc
1800
cggctcttca gcgtcatctt caagtacgag gtcccagccg agtgaggcgc tgcagctgcc
1860
ggactcttct gcttgtcact tgtcaggaat gtgtttttac caccacaggg aaactgcgtt
1920
caaatcaacg tatttatatg gtactgctgt gacgcggcac atacacccca gccgcacaga
1980
tgcgtgtgac ccagaggcga gacgcagctt tgtcctggga gacgttcata ttggaatcta
2040
tttaactgct aaagaacctt ttatatatat atatatat aaatagagag atctatacag
2100
gtatgtctga cgggacgcag caccgtgggc acgcaccaaa tagagttttt aaaagaggaa
2160
aaaaaactct atttggtgcg t
2181
```

```
<210> 5634
<211> 289
<212> PRT
```

<213> Homo sapiens

<400> 5634
Pro Thr Ala Ser Pro Ser Ser Trp Gln Ser Val Leu Arg Ala Trp Thr
 1   5   10   15
Leu Thr Val Arg Ser Leu Leu Asp Thr Arg Glu His Cys Leu Asn Glu
            20   25   30
Phe Asn Phe Pro Asp Pro Tyr Ser Lys Val Lys Gln Arg Glu Asn Gly
        35   40   45
Val Ala Leu Arg Cys Phe Pro Gly Val Val Arg Ser Leu Asp Ala Leu
    50   55   60
Gly Trp Glu Glu Arg Gln Leu Ala Leu Val Lys Gly Leu Leu Ala Gly
65   70   75   80
Asn Val Phe Asp Trp Gly Ala Lys Ala Val Ser Ala Val Leu Glu Ser
                85   90   95
Asp Pro Tyr Phe Gly Phe Glu Glu Ala Lys Arg Lys Leu Gln Glu Arg
            100   105   110
Pro Trp Leu Val Asp Ser Tyr Ser Glu Trp Leu Gln Arg Leu Lys Gly
        115   120   125
Pro Pro His Lys Cys Ala Leu Ile Phe Ala Asp Asn Ser Gly Ile Asp
    130   135   140
Ile Ile Leu Gly Val Phe Pro Phe Val Arg Glu Leu Leu Leu Arg Gly
145   150   155   160
Thr Glu Val Ile Leu Ala Cys Asn Ser Gly Pro Ala Leu Asn Asp Val
                165   170   175
Thr His Ser Glu Ser Leu Ile Val Ala Glu Arg Ile Ala Gly Met Asp
            180   185   190
Pro Val Val His Ser Ala Leu Gln Glu Glu Arg Leu Leu Leu Val Gln
        195   200   205
Thr Gly Ser Ser Ser Pro Cys Leu Asp Leu Ser Arg Leu Asp Lys Gly
        210   215   220
Leu Ala Ala Leu Val Arg Glu Arg Gly Ala Asp Leu Val Val Ile Glu
225   230   235   240
Gly Met Gly Arg Ala Val His Thr Asn Tyr His Ala Ala Leu Arg Cys
                245   250   255
Glu Ser Leu Lys Leu Ala Val Ile Lys Asn Ala Trp Leu Ala Glu Arg
            260   265   270
Leu Gly Gly Arg Leu Phe Ser Val Ile Phe Lys Tyr Glu Val Pro Ala
            275   280   285
Glu

<210> 5635
<211> 614
<212> DNA
<213> Homo sapiens

<400> 5635
nntgtgaaag atgttgcaga agtgttccag aagtggctga agatagaagg aaaaaagtgc
60
cactgcctat cagaaaaaac aaaacaaaac atgggaaata caaccaccaa attccgtaaa
120
gcactcatca atggtgatga aaacctggcc tgccaaatat atgaaaacaa tcctcagcta
180

```
aaagaatctc ttgatccaaa tacatcttat ggggagccct accagcacaa tactccatta
240
cattatgctg ctagacatgg aatgaataaa atattaggag atgatttcag aagagcagat
300
tgtctgcaga tgatcttaaa atggaaagga gcaaaacttg accagggtga atatgagaga
360
gcagctattg atgctgttga taacaaaaaa aacacaccct tgcactatgc tgctgcctca
420
gggatgaaag cctgtgtaga aaaacatgga ggagacttgt ttgctgagaa tgaaaataaa
480
gatactcctt gtgattgtgc tgaaaagcaa caccacaaag atttggccct caatctggaa
540
tctcaaatgg tattctcacg ggatcccgag gctgaagaaa tagaagctga atatgctgca
600
ttagacaaac gaga
614


<210> 5636
<211> 204
<212> PRT
<213> Homo sapiens


<400> 5636
Xaa Val Lys Asp Val Ala Glu Val Phe Gln Lys Trp Leu Lys Ile Glu
1               5                   10                  15
Gly Lys Lys Cys His Cys Leu Ser Glu Lys Thr Lys Gln Asn Met Gly
            20                  25                  30
Asn Thr Thr Thr Lys Phe Arg Lys Ala Leu Ile Asn Gly Asp Glu Asn
        35                  40                  45
Leu Ala Cys Gln Ile Tyr Glu Asn Asn Pro Gln Leu Lys Glu Ser Leu
    50                  55                  60
Asp Pro Asn Thr Ser Tyr Gly Glu Pro Tyr Gln His Asn Thr Pro Leu
65                  70                  75                  80
His Tyr Ala Ala Arg His Gly Met Asn Lys Ile Leu Gly Asp Asp Phe
                85                  90                  95
Arg Arg Ala Asp Cys Leu Gln Met Ile Leu Lys Trp Lys Gly Ala Lys
            100                 105                 110
Leu Asp Gln Gly Glu Tyr Glu Arg Ala Ala Ile Asp Ala Val Asp Asn
        115                 120                 125
Lys Lys Asn Thr Pro Leu His Tyr Ala Ala Ala Ser Gly Met Lys Ala
        130                 135                 140
Cys Val Glu Lys His Gly Gly Asp Leu Phe Ala Glu Asn Glu Asn Lys
145                 150                 155                 160
Asp Thr Pro Cys Asp Cys Ala Glu Lys Gln His His Lys Asp Leu Ala
                165                 170                 175
Leu Asn Leu Glu Ser Gln Met Val Phe Ser Arg Asp Pro Glu Ala Glu
                180                 185                 190
Glu Ile Glu Ala Glu Tyr Ala Ala Leu Asp Lys Arg
        195                 200


<210> 5637
<211> 825
<212> DNA
<213> Homo sapiens
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<400> 5637

acgcgtccga ggctcctcaa acccagggcc ccacctggca cgtggaggaa gaagagaagg
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gcaggaggca ggtgcccagg tgggagcccc ctctgtgccc cctgggagtg tcccccccgc
120

ccaggtactc agggccctgc cctcgtggcc ttgtccgctc gccgcgggtg gggctggcac
180

aaggcccgtt ttggaggaag tggaggctcc caggagaaag gcagtggctg tgatcgcaca
240

gcccaggctc tgccctgcac tgccctggac cacgaggctg cccaccccag acaggtggga
300

cccctttccc gcatgcagac tctgagcagc agcttcctgt gaccccacc gcgtcctgct
360

cctcaggctc atgccctgcg ggaacagaag ccaagacccg gtagaaaatc caaggtgttt
420

aaatataaat aagagcgatt cccacagccc cacggtgctg gccagcctca caggtgcccg
480

ctggttctgt gacccatccc aggcacacgc tccctggct gggcgcctgg ccagggctcc
540

cctgtggctg gcgtgtggag acacgtgggc ccttctccac gtgcccacga gggccgtagc
600

aggctccaag gaggcccagc cccggccagc ctgtgtggac cccgccggcc tgcgcgcccc
660

ggagctgctg actgtgtcag agcccggctg cccagcgccc cggcgccctc cctccagctg
720

cccagcctgg gatccgtccg ctgtctgtct cctgaaccag ggagtctgac ccactcacag
780

ctcccatggg gtccgtgcag ccaaggcccc gcagccacac tcact
825

<210> 5638
<211> 132
<212> PRT
<213> Homo sapiens

<400> 5638
Met Pro Cys Gly Asn Arg Ser Gln Asp Pro Val Glu Asn Pro Arg Cys
1   5   10   15
Leu Asn Ile Asn Lys Ser Asp Ser His Ser Pro Thr Val Leu Ala Ser
            20   25   30
Leu Thr Gly Ala Arg Trp Phe Cys Asp Pro Ser Gln Ala His Ala Pro
        35   40   45
Leu Ala Gly Arg Leu Ala Arg Ala Pro Leu Trp Leu Ala Cys Gly Asp
    50   55   60
Thr Trp Ala Leu Leu His Val Pro Thr Arg Ala Val Ala Gly Ser Lys
65   70   75   80
Glu Ala Gln Pro Arg Pro Ala Cys Val Asp Pro Ala Gly Leu Arg Ala
                85   90   95
Pro Glu Leu Leu Thr Val Ser Glu Pro Gly Cys Pro Ala Pro Arg Arg
            100   105   110
Pro Pro Ser Ser Cys Pro Ala Trp Asp Pro Ser Ala Val Cys Leu Leu
        115   120   125
Asn Gln Gly Val

4817

130

<210> 5639
<211> 2433
<212> DNA
<213> Homo sapiens

<400> 5639
natagctaca aaataaaaaa aactaattca aacaaatgta cttatttaat ccaatatatc
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ccaacaatta ttgcagcaca taatcaatat aaacattata tatatgaact atttgacact
120
atttgacatt tcttcttcca catccagtgt atctgacatt tagcgcacat ttgatttgca
180
ctcacccact ttgaggagct caattgccgc ttaagtccgt ggctagtggc tgccctaaag
240
ttcagcaccg ccacggagct ttgggtccac ccggactgta aaaaggaagc acttccgtta
300
gcatgacccg gcctgaagta gcggcggaac ggaagtcgct tgtgtatgaa cgcagcggcg
360
gacctgtgag gggatccgac ttgccggcag aacttacgct gcgggacccc gggcactgtt
420
gctgctgcgg gagactgtgg gctgtttagt gccatgcacc ctttacagtg tgtcctccaa
480
gtgcagaggt ctctggggtg gggaccattg gcctctgtgt cttggctgtc gctgaggatg
540
tgcagggcac acagcagtct ctctagtacc atgtgtccca gtccagagag gcaggaggat
600
ggagctcgga aggatttcag ctccaggctg gctgctggac cgacttttca acatttttta
660
aaaagtgcct cagctcctca ggagaagctg tcttcagaag tggaagaccc acctccctat
720
ctcatgatgg atgaacttct tggaaggcag agaaaagtct acctcgagac ctatggctgc
780
cagatgaatg tgaatgacac agagatagcc tggtccatct tacagaagag tggctacctg
840
cggccagtaa cctccaaggc agatgtgatt ctccttgtca cgtgctctat cagggagaag
900
gctgagcaga ccatctggaa ccgtttacat cagcttaaag ccttgaagac aaggcggccc
960
cgctcccggg ttcctctgag gattggaatt ctaggctgca tggctgagag gttgaaggag
1020
gagattctca acagagagaa aatggtagat attttggctg gtcctgatgc ctaccgggac
1080
cttcccggc tgctggctgt tgctgagtcg ggccagcaag ctgccaacgt gctgctctct
1140
ctggacgaga cctatgctga tgtcatgcca gtccagacaa gcgccagtgc cacgtctgcc
1200
tttgtgtcaa tcatgcgagg ctgtgacaac atgtgtagct actgcattgt tcctttcacc
1260
cggggcaggg agaggagtcg gcctattgcc tccattctag aggaagtgaa gaagctttct
1320
gagcaggggc tgaaagaagt gacacttctt ggtcagaatg ttaatagttt tcgggacaat
1380

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tcggaggtcc agttcaacag tgcagtgcct accaatctca gtcgtggctt taccaccaac
1440
tataaaacca agcaaggagg acttcgtttt gctcatcttc tggatcaggt ctccagagta
1500
gatcctgaaa tgaggatccg ttttacctct ccccacccca aggattttcc tgatgaggtt
1560
ctgcagctga ttcatgagag agataacatc tgtaaacaga tccacctgcc agcccagagt
1620
ggaagcagcc gtgtgttgga ggccatgcgg aggggatatt caagagaagc ttatgtggag
1680
ttagttcacc atattagaga atctattcca ggtgtgagcc tcagcagcga tttcattgct
1740
ggcttttgtg gtgagacgga ggaagatcac gtccagacag tctctttgct ccgggaagtt
1800
cagtacaaca tgggcttcct ctttgcctac agcatgagac agaagacacg ggcatatcat
1860
aggctgaagg atgatgtccc ggaagaggta aaattaaggc gtttggagga actcatcact
1920
atcttccgag aagaagcaac aaaagccaat cagacctctg tgggctgtac ccagttggtg
1980
ctagtggaag ggctcagtaa acgctctgcc actgacctgt gtggcaggaa tgatggaaac
2040
cttaaggtga tcttccctga tgcagagatg gaggatgtca ataaccctgg gctcagggtc
2100
agagcccagc ctggggacta tgtgctggtg aagatcaccn ntcagccagt tctcagacac
2160
ttaggggaca tgttctctgc aggaccactc tgagggactc ttctgcatat tgctgacctg
2220
agaggatggc ctcagagctg acttgggcaa tcctccccaa caggaagggg agacattgcc
2280
tgccactgag gaaacaggtc atgaaggtgg agataagctg caagggcga agcaacttta
2340
tgtcagtgga aaacgtgtct ctttaaagct gctatgtgaa cagcttttac agtcattaaa
2400
tttacctaaa ctaaggttaa aaaaaaaaa aaa
2433
```

```
<210> 5640
<211> 540
<212> PRT
<213> Homo sapiens
```

```
<400> 5640
Met Cys Pro Ser Pro Glu Arg Gln Glu Asp Gly Ala Arg Lys Asp Phe
1               5                   10                  15
Ser Ser Arg Leu Ala Ala Gly Pro Thr Phe Gln His Phe Leu Lys Ser
            20                  25                  30
Ala Ser Ala Pro Gln Glu Lys Leu Ser Ser Glu Val Glu Asp Pro Pro
        35                  40                  45
Pro Tyr Leu Met Met Asp Glu Leu Leu Gly Arg Gln Arg Lys Val Tyr
        50                  55                  60
Leu Glu Thr Tyr Gly Cys Gln Met Asn Val Asn Asp Thr Glu Ile Ala
65                  70                  75                  80
Trp Ser Ile Leu Gln Lys Ser Gly Tyr Leu Arg Pro Val Thr Ser Lys
```

```
                        85                   90                   95
Ala Asp Val Ile Leu Leu Val Thr Cys Ser Ile Arg Glu Lys Ala Glu
                   100                  105                  110
Gln Thr Ile Trp Asn Arg Leu His Gln Leu Lys Ala Leu Lys Thr Arg
               115                  120                  125
Arg Pro Arg Ser Arg Val Pro Leu Arg Ile Gly Ile Leu Gly Cys Met
       130                  135                  140
Ala Glu Arg Leu Lys Glu Glu Ile Leu Asn Arg Glu Lys Met Val Asp
145                  150                  155                  160
Ile Leu Ala Gly Pro Asp Ala Tyr Arg Asp Leu Pro Arg Leu Leu Ala
                   165                  170                  175
Val Ala Glu Ser Gly Gln Gln Ala Ala Asn Val Leu Leu Ser Leu Asp
               180                  185                  190
Glu Thr Tyr Ala Asp Val Met Pro Val Gln Thr Ser Ala Ser Ala Thr
           195                  200                  205
Ser Ala Phe Val Ser Ile Met Arg Gly Cys Asp Asn Met Cys Ser Tyr
   210                  215                  220
Cys Ile Val Pro Phe Thr Arg Gly Arg Glu Arg Ser Arg Pro Ile Ala
225                  230                  235                  240
Ser Ile Leu Glu Glu Val Lys Lys Leu Ser Glu Gln Gly Leu Lys Glu
                   245                  250                  255
Val Thr Leu Leu Gly Gln Asn Val Asn Ser Phe Arg Asp Asn Ser Glu
               260                  265                  270
Val Gln Phe Asn Ser Ala Val Pro Thr Asn Leu Ser Arg Gly Phe Thr
           275                  280                  285
Thr Asn Tyr Lys Thr Lys Gln Gly Gly Leu Arg Phe Ala His Leu Leu
       290                  295                  300
Asp Gln Val Ser Arg Val Asp Pro Glu Met Arg Ile Arg Phe Thr Ser
305                  310                  315                  320
Pro His Pro Lys Asp Phe Pro Asp Glu Val Leu Gln Leu Ile His Glu
               325                  330                  335
Arg Asp Asn Ile Cys Lys Gln Ile His Leu Pro Ala Gln Ser Gly Ser
           340                  345                  350
Ser Arg Val Leu Glu Ala Met Arg Arg Gly Tyr Ser Arg Glu Ala Tyr
       355                  360                  365
Val Glu Leu Val His His Ile Arg Glu Ser Ile Pro Gly Val Ser Leu
   370                  375                  380
Ser Ser Asp Phe Ile Ala Gly Phe Cys Gly Glu Thr Glu Glu Asp His
385                  390                  395                  400
Val Gln Thr Val Ser Leu Leu Arg Glu Val Gln Tyr Asn Met Gly Phe
               405                  410                  415
Leu Phe Ala Tyr Ser Met Arg Gln Lys Thr Arg Ala Tyr His Arg Leu
           420                  425                  430
Lys Asp Asp Val Pro Glu Glu Val Lys Leu Arg Arg Leu Glu Glu Leu
       435                  440                  445
Ile Thr Ile Phe Arg Glu Glu Ala Thr Lys Ala Asn Gln Thr Ser Val
   450                  455                  460
Gly Cys Thr Gln Leu Val Leu Val Glu Gly Leu Ser Lys Arg Ser Ala
465                  470                  475                  480
Thr Asp Leu Cys Gly Arg Asn Asp Gly Asn Leu Lys Val Ile Phe Pro
               485                  490                  495
Asp Ala Glu Met Glu Asp Val Asn Asn Pro Gly Leu Arg Val Arg Ala
           500                  505                  510
Gln Pro Gly Asp Tyr Val Leu Val Lys Ile Thr Xaa Gln Pro Val Leu
```

```
         515                    520                      525
Arg His Leu Gly Asp Met Phe Ser Ala Gly Pro Leu
     530                    535                      540
```

<210> 5641
<211> 293
<212> DNA
<213> Homo sapiens

<400> 5641

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gcgtcgcata cagccaacct gtgcgtgctg ctgtaccgca gcggcgtcaa agtggtcacc
60
ttctgtggcc acgcgtccaa aaccaatcag gtcaactcgg gcggtgtgct gctgaggttg
120
caggtgggcg aggaggtgtg gctggctggg gcacccctgg catccctgga gagccaggtg
180
aggagggcag atacaagcag aaattccagt cagtgttcac ggtcactcgg cagacccacc
240
agccccctgc acccaacagc ctgatcagat tcaacgcggg cctcaccaac ccg
293
```

<210> 5642
<211> 87
<212> PRT
<213> Homo sapiens

<400> 5642

```
Ala Ser His Thr Ala Asn Leu Cys Val Leu Leu Tyr Arg Ser Gly Val
  1               5                  10                  15
Lys Val Val Thr Phe Cys Gly His Ala Ser Lys Thr Asn Gln Val Asn
             20                  25                  30
Ser Gly Gly Val Leu Leu Arg Leu Gln Val Gly Glu Glu Val Trp Leu
         35                  40                  45
Ala Gly Ala Pro Leu Ala Ser Leu Glu Ser Gln Val Arg Arg Ala Asp
     50                  55                  60
Thr Ser Arg Asn Ser Ser Gln Cys Ser Arg Ser Leu Gly Arg Pro Thr
65                  70                  75                  80
Ser Pro Leu His Pro Thr Ala
                 85
```

<210> 5643
<211> 1218
<212> DNA
<213> Homo sapiens

<400> 5643

```
nnacgcgtga ggagcctgag gcggcggcgg gggtggctcc gcgcgcggtg gtctcggggg
60
caaaataaca tggcagccag acgaattaca caggagactt ttgatgctgt attacaagaa
120
aaagccaaac gatatcacat ggatgccagt ggtgaggctg taagcgaaac tcttcagttt
180
aaagctcaag atctcttaag ggcagtccca agatccagag cagagatgta tgatgacgtc
240
```

```
cacagcgatg gcagatactc cctcagtgga tctgtagctc actctagaga tgccggaaga
300
gaaggcctga gaagtgacgt atttccaggg ccttccttca gatcaagcaa cccttccatc
360
agtgatgaca gctactttcg caaagaatgt ggccgggatc tggaattttc tcactctgat
420
tctcgggacc aggtcattgg ccaccggaaa ttggggcatt tccgttctca ggactggaaa
480
tttgcgctcc gtggttcttg ggaacaagac tttggccatc cagtttctca agagtcctct
540
tggtcacagg agtatagttt tggtccctct gcagttttgg gggactttgg atcttccagg
600
ctgattgaga aagagtgttt ggagaaggag agtcgggatt atgacgtgga ccatcctggg
660
gaggctgact ctgtgcttag gggcagcagt caagtccagg ccagaggtcg agctctaaac
720
atcgttgacc aggaaggttc cctcctagga aggggggaga ctcagggcct gctcacagct
780
aagggggggtg ttgggaaact tgtcacattg agaaatgtga gcacaaaaaa aatacccacc
840
gtgaatcgta ttactcccaa aactcagggc actaaccaaa tccagaaaaa cactccaagt
900
cctgatgtga ccctggggac aaacccaggg acagaagata tccagttccc cattcagaag
960
atccctctgg ggctggatct gaagaatctt cggctcccca gaagaaagat gagctttgac
1020
atcatagata agtctgatgt ttttttcaaga tttgggatag aaataatcaa atgggcagga
1080
ttccacacca taaaattaga ttattaaatt tttcccaaac ttttccagac tctctttgaa
1140
cttgaaacag aaacctgtgc taaaatgctt gcctcattca aatgttcctt aaaaccagag
1200
cacagagatt tttgcttt
1218
```

```
<210> 5644
<211> 202
<212> PRT
<213> Homo sapiens

<400> 5644
Trp Glu Gln Asp Phe Gly His Pro Val Ser Gln Glu Ser Ser Trp Ser
1               5                   10                  15
Gln Glu Tyr Ser Phe Gly Pro Ser Ala Val Leu Gly Asp Phe Gly Ser
            20                  25                  30
Ser Arg Leu Ile Glu Lys Glu Cys Leu Glu Lys Glu Ser Arg Asp Tyr
        35                  40                  45
Asp Val Asp His Pro Gly Glu Ala Asp Ser Val Leu Arg Gly Ser Ser
    50                  55                  60
Gln Val Gln Ala Arg Gly Arg Ala Leu Asn Ile Val Asp Gln Glu Gly
65                  70                  75                  80
Ser Leu Leu Gly Lys Gly Glu Thr Gln Gly Leu Leu Thr Ala Lys Gly
                85                  90                  95
Gly Val Gly Lys Leu Val Thr Leu Arg Asn Val Ser Thr Lys Lys Ile
```

4822

```
                    100                      105                      110
Pro Thr Val Asn Arg Ile Thr Pro Lys Thr Gln Gly Thr Asn Gln Ile
        115                      120                      125
Gln Lys Asn Thr Pro Ser Pro Asp Val Thr Leu Gly Thr Asn Pro Gly
    130                      135                      140
Thr Glu Asp Ile Gln Phe Pro Ile Gln Lys Ile Pro Leu Gly Leu Asp
145                      150                      155                      160
Leu Lys Asn Leu Arg Leu Pro Arg Arg Lys Met Ser Phe Asp Ile Ile
                165                      170                      175
Asp Lys Ser Asp Val Phe Ser Arg Phe Gly Ile Glu Ile Ile Lys Trp
            180                      185                      190
Ala Gly Phe His Thr Ile Lys Leu Asp Tyr
        195                      200
```

<210> 5645
<211> 156
<212> DNA
<213> Homo sapiens

<400> 5645
ccacgtccat cccgaagaag gaactgcagg tgggcggttt ttggcctggc acagagatgt
60
cctcagatca gcttcccctc tcccaggcaa gaggacacga gcactggcaa gttcacctgc
120
aaagtccccg gcctctacta ctttgtctac cacgcg
156

<210> 5646
<211> 52
<212> PRT
<213> Homo sapiens

<400> 5646
```
Pro Arg Pro Ser Arg Arg Arg Asn Cys Arg Trp Ala Val Phe Gly Leu
1               5                   10                      15
Ala Gln Arg Cys Pro Gln Ile Ser Phe Pro Ser Pro Arg Gln Glu Asp
            20                      25                      30
Thr Ser Thr Gly Lys Phe Thr Cys Lys Val Pro Gly Leu Tyr Tyr Phe
        35                      40                      45
Val Tyr His Ala
    50
```

<210> 5647
<211> 150
<212> DNA
<213> Homo sapiens

<400> 5647
cccatggggc cgggcaccct ggcattccca gggggtccca tggggccatt tttcccagga
60
aggcccaagg gggagccagg aatcccagcc attcccggga tccgaggacc caaagggcag
120
aagggagaac ccggcttacc cggccatccn
150

<210> 5648
<211> 50
<212> PRT
<213> Homo sapiens

<400> 5648
Pro Met Gly Pro Gly Thr Leu Ala Phe Pro Gly Gly Pro Met Gly Pro
1   5   10   15
Phe Phe Pro Gly Arg Pro Lys Gly Glu Pro Gly Ile Pro Ala Ile Pro
                20   25   30
Gly Ile Arg Gly Pro Lys Gly Gln Lys Gly Glu Pro Gly Leu Pro Gly
            35   40   45
His Pro
    50

<210> 5649
<211> 345
<212> DNA
<213> Homo sapiens

<400> 5649
ngggacctgc aagcccgcgg ccagacctgc cagcgcgccg gccatggctg tcgccgccgc
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aaccgcctgg tccctcggat cgcgcccagc ccagactcgg actcggacac agactcggag
120
gacccgagtc tccggcgcag cgcgggcggc ttgctccgct cgcaggtcat ccacagcggt
180
cacttcatgg tgtcgtcgcc gcacagcgac tcgctgcccc ggcggcgcga ccaggagggt
240
ccgtggggcc ctccgacttc gggccgcgca gtatcgaccc cacactcaca cgcctcttcg
300
agtgcttgag cctggcctac agtggcaagc tggggtctcc caagt
345

<210> 5650
<211> 100
<212> PRT
<213> Homo sapiens

<400> 5650
Met Ala Val Ala Ala Ala Thr Ala Trp Ser Leu Gly Ser Arg Pro Ala
1   5   10   15
Gln Thr Arg Thr Arg Thr Gln Thr Arg Arg Thr Arg Val Ser Gly Ala
                20   25   30
Ala Arg Ala Ala Cys Ser Ala Arg Arg Ser Ser Thr Ala Val Thr Ser
            35   40   45
Trp Cys Arg Arg Arg Thr Ala Thr Arg Cys Pro Gly Gly Ala Thr Arg
        50   55   60
Arg Val Arg Gly Ala Leu Arg Leu Arg Ala Ala Gln Tyr Arg Pro His
65   70   75   80
Thr His Thr Pro Leu Arg Val Leu Glu Pro Gly Leu Gln Trp Gln Ala
                85   90   95
Gly Val Ser Gln

100   .

```
<210> 5651
<211> 615
<212> DNA
<213> Homo sapiens

<400> 5651
ctcgaggaat attgggtctt ctgcgcggcc gtagagctcc gccaagtgcg cctgcgcgga
60
ggagaagtgg cgtcgagtcc ggccgggcag tagaggaaat tgcggtagtg accctcgggc
120
ctcgccatga agagccgctt tagcaccatt gacctccgcg ccgtactcgc ggagctgaat
180
gctagcttgc taggaatgag agtaaacaat gtttatgatg tggataataa gacatacctt
240
attcgtcttc aaaaaccgga ctttaaagct acacttttac ttgaatctgg catacaaatt
300
catacaacag aatttgagtg gcctaagaat atgatgccgt ctagttttgc catgaagtgc
360
cgaaacatt tgaagagtcg gagattagtc agtgcaaaac agcttggtgt ggatagaatt
420
gtagatttc aatttggaag tgatgaagct gcttaccatt taatcattga gctctatgat
480
aggggaaca ttgttcttac agattatgag tacgtaattt taaatattct aaggtttcga
540
actgatgagg cagatgatgt taaatttgct gttcgtgaac gctatccact tgatcatgct
600
agagctgctg aacct
615


<210> 5652
<211> 163
<212> PRT
<213> Homo sapiens

<400> 5652
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Met Lys Ser Arg Phe Ser Thr Ile Asp Leu Arg Ala Val Leu Ala Glu
1   5   10   15
Leu Asn Ala Ser Leu Leu Gly Met Arg Val Asn Asn Val Tyr Asp Val
              20   25   30
Asp Asn Lys Thr Tyr Leu Ile Arg Leu Gln Lys Pro Asp Phe Lys Ala
          35   40   45
Thr Leu Leu Leu Glu Ser Gly Ile Gln Ile His Thr Thr Glu Phe Glu
        50   55   60
Trp Pro Lys Asn Met Met Pro Ser Ser Phe Ala Met Lys Cys Arg Lys
65   70   75   80
His Leu Lys Ser Arg Arg Leu Val Ser Ala Lys Gln Leu Gly Val Asp
                85   90   95
Arg Ile Val Asp Phe Gln Phe Gly Ser Asp Glu Ala Ala Tyr His Leu
              100   105   110
Ile Ile Glu Leu Tyr Asp Arg Gly Asn Ile Val Leu Thr Asp Tyr Glu
          115   120   125
Tyr Val Ile Leu Asn Ile Leu Arg Phe Arg Thr Asp Glu Ala Asp Asp

```
       130                     135                  140
Val Lys Phe Ala Val Arg Glu Arg Tyr Pro Leu Asp His Ala Arg Ala
145                     150                  155                  160
Ala Glu Pro
```

<210> 5653
<211> 1439
<212> DNA
<213> Homo sapiens

<400> 5653
nnacgcgtcg catacagcca acctgtgcgt gctgctgtac cgcagcggcg tcaaagtggt
60
caccttctgt ggccacacgt ccaaaaccaa tcaggtcaac tcgggcggtg tgctgctgag
120
gttgcaggtg aacttgccag tgctcgtgtc ataatctccc tgcgggttgg tgaggaccgc
180
gttgaatctg atcaggctgt tgggtgcagg gggctggtgg gtctgccgag tgaccactca
240
gacaccgtgt cctcttgcct gggagagggg aagcagatct gaggacatct ctgtgccagg
300
ccagaaaccg cccacctgca ggtgaggccc ggacccctgc ccagttcctt ctccgggatg
360
gacgtggggc ccagctccct gccccacctt gggctgaagc tgctgctgct cctgctgctg
420
ctgcccctca ggggccaagc caacacaggc tgctacggga tcccagggat gcccggcctg
480
cccggggcac cagggaagga tgggtacgac ggactgccgg gcccaaggg ggagccagga
540
atcccagcca ttcccgggat ccgaggaccc aaagggcaga agggagaacc cggcttaccc
600
ggccatcctg ggaaaaatgg ccccatggga cccctggga tgccaggggt gcccggcccc
660
atgggcatcc ctggagagcc aggtgaggag ggcagataca agcagaaatt ccagtcagtg
720
ttcacggtca ctcggcagac ccaccagccc cctgcaccca acagcctgat cagattcaac
780
gcggtcctca ccaacccgca gggagattat gacacgagca ctggcaagtt cacctgcaaa
840
gtccccggcc tctactactt tgtctaccac gcgtcgcata cagccaacct gtgcgtgctg
900
ctgtaccgca gcggcgtcaa agtggtcacc ttctgtggcc acacgtccaa aaccaatcag
960
gtcaactcgg gcggtgtgct gctgaggttg caggtgggcg aggaggtgtg gctggctgtc
1020
aatgactact acgacatggt gggcatccag ggctctgaca gcgtcttctc cggcttcctg
1080
ctcttccccg actagggcgg gcagatgcgc tcgagcccca cgggccttcc acctccctca
1140
gcttcctgca tggacccacc ttactggcca gtctgcatcc ttgcctagac cattctcccc
1200
accagatgga cttctcctcc agggagccca ccctgaccca ccccactgc acccctccc
1260

catgggttct ctccttcctc tgaacttctt taggagtcac tgcttgtgtg gttcctggga
1320
cacttaacca atgccttctg gtactgccat tcttttttt tttttcaag tattggaagg
1380
ggtggggaga tatataaata aatcatgaaa tcaataaaaa aaaaaaaaaa aaaaaaaaa
1439

<210> 5654
<211> 245
<212> PRT
<213> Homo sapiens

<400> 5654
Met Asp Val Gly Pro Ser Ser Leu Pro His Leu Gly Leu Lys Leu Leu
 1   5   10   15
Leu Leu Leu Leu Leu Leu Pro Leu Arg Gly Gln Ala Asn Thr Gly Cys
            20   25   30
Tyr Gly Ile Pro Gly Met Pro Gly Leu Pro Gly Ala Pro Gly Lys Asp
            35   40   45
Gly Tyr Asp Gly Leu Pro Gly Pro Lys Gly Glu Pro Gly Ile Pro Ala
     50   55   60
Ile Pro Gly Ile Arg Gly Pro Lys Gly Gln Lys Gly Glu Pro Gly Leu
65   70   75   80
Pro Gly His Pro Gly Lys Asn Gly Pro Met Gly Pro Pro Gly Met Pro
                85   90   95
Gly Val Pro Gly Pro Met Gly Ile Pro Gly Glu Pro Gly Glu Glu Gly
            100   105   110
Arg Tyr Lys Gln Lys Phe Gln Ser Val Phe Thr Val Thr Arg Gln Thr
            115   120   125
His Gln Pro Pro Ala Pro Asn Ser Leu Ile Arg Phe Asn Ala Val Leu
        130   135   140
Thr Asn Pro Gln Gly Asp Tyr Asp Thr Ser Thr Gly Lys Phe Thr Cys
145   150   155   160
Lys Val Pro Gly Leu Tyr Tyr Phe Val Tyr His Ala Ser His Thr Ala
                165   170   175
Asn Leu Cys Val Leu Leu Tyr Arg Ser Gly Val Lys Val Val Thr Phe
                180   185   190
Cys Gly His Thr Ser Lys Thr Asn Gln Val Asn Ser Gly Gly Val Leu
            195   200   205
Leu Arg Leu Gln Val Gly Glu Glu Val Trp Leu Ala Val Asn Asp Tyr
        210   215   220
Tyr Asp Met Val Gly Ile Gln Gly Ser Asp Ser Val Phe Ser Gly Phe
225   230   235   240
Leu Leu Phe Pro Asp
                245

<210> 5655
<211> 3810
<212> DNA
<213> Homo sapiens

<400> 5655
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120

aagtacatgg aagtccatga gaaggcctcc ttcaccaata gtgagctgca ccgtgccatg
180

aacctgcacg tcggcaacct gcgcctgctc agcgggccgc ttgaccaggt ccgggctgcc
240

ctgcccacac cggccctctc cccagaggac aaggccgtgc tgcaaaacct aaagcgcatc
300

ctggctaagg tgcaggagat gcgggaccag cgcgtgtccc tggagcagca gctgcgtgag
360

cttatccaga aagatgacat cactgcctcg ctggtcacca cagaccactc agagatgaag
420

aagttgttcg aggagcagct gaaaaagtat gaccagctga aggtgtacct ggagcagaac
480

ctggccgccc aggaccgtgt cctctgtgca ctgacagagg ccaacgtgca gtacgcagcc
540

gtgcggcggg tactcagcga cttggaccaa aagtggaact ccacgctgca gaccctggtg
600

gcctcgtatg aagcctatga ggacctgatg aagaagtcgc aggagggcag ggacttctac
660

gcagatctgg agagcaaggt ggctgctctg ctggagcgca cgcagtccac ctgccaggcc
720

cgcgaggctg cccgccagca gctcctggac agggagctga agaagaagcc gccgccacgg
780

cccacagccc caaagccgct gctgccccgc agggaggaga gtgaggcagt ggaagcagga
840

gaccccctg aggagctgcg cagcctcccc cctgacatgg tggctggccc acgactgcct
900

gacaccttcc tgggaagtgc caccccgctc cactttcctc ccagcccctt ccccagctcc
960

acaggcccag gaccccacta tctctcaggc cccttgcccc ctggtaccta ctcgggcccc
1020

acccagctga tacagcccag ggccccaggg ccccatgcaa tgcccgtagc acctgggcct
1080

gccctctacc cagcccctgc ctacacaccg gagctgggcc ttgtgccccg atcctcccca
1140

cagcatggcg tggtgagcag tccctatgtg ggggtagggc cggccccacc agttgcaggt
1200

ctccctcgg ccccacctcc tcaattctca ggccccgagt tggccatggc ggttcggcca
1260

gccaccacca cagtagatag catccaggcg cccatcccca gccacacagc cccacggcca
1320

aaccccaccc ctgctcctcc cccgccctgc ttccctgtgc ccccaccgca gccactgccc
1380

acgccttaca cctaccctgc aggggctaag caacccatcc cagcacagca ccacttctct
1440

tctgggatcc ccacaggttt tccagcccca aggattgggc cccagcccca gccccatcct
1500

cagcccatc cttcacaagc gtttgggcct cagcccccac agcagcccct tccactccag
1560

catccacatc tcttcccacc ccaggcccca ggactcctac ccccacaatc ccctaccc
1620

tatgccctc agcctggggt cctggggcag ccgccacccc cctacacac ccagctctac
1680

4828

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ccaggtcccg ctcaagaccc tctgccagcc cactcagggg ctctgccttt ccccagccct
1740
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1800
atgggccccc aggcagcccc tcttaccatt cgagggccct cgtctgctgg ccagtccacc
1860
cctagtcccc acctggtgcc ttcacctgcc ccatctccag ggcctggtcc ggtaccccct
1920
cgccccccag cagcagaacc accccttgc ctgcgccgag gcgccgcagc tgcagacctg
1980
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2040
ctgctgcagc ccaccaaggt ggatgcagct gagggtcgtc ggccgcaggc cctgcggctg
2100
attgagcggg acccctatga gcatcctgag aggctgcggc agttgcagca ggagctggag
2160
gcctttcggg gtcagctggg ggatgtggga gctctggaca ctgtctggcg agagctgcaa
2220
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2280
aagaaccggc accaggatgt catgccctat gacagtaacc gtgtggtgct gcgctcaggc
2340
aaggatgact acatcaatgc cagctgcgtg gaggggctct ccccatactg ccccccgcta
2400
gtggcaaccc aggccccact gcctggcaca gctgctgact tctggctcat ggtccatgag
2460
cagaaagtgt cagtcattgt catgctggtt tctgaggctg agatggagaa gcaaaaagtg
2520
gcacgctact tccccaccga gaggggccag cccatggtgc acggtgccct gagcctggca
2580
ttgagcagcg tccgcagcac cgaaacccat gtggagcgcg tgctgagcct gcagttccga
2640
gaccagagcc tcaagcgctc tcttgtgcac ctgcacttcc ccacttggcc tgagttaggc
2700
ctgcccgaca gccccagcaa ccttctgcgc ttcatccagg aggtgcacgc acattacctg
2760
catcagcggc cgctgcacac gcccatcatt gtgcactgca gctctggtgt gggccgcacg
2820
ggagcctttg cactgctcta tgcagctgtg caggaggtgg aggctgggaa cggaatccct
2880
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2940
ctgcacctca ggnttctgct atgaggcagt ggtgagacac gtggagcagg tcctgcagcg
3000
ccatggtgtg cctcctccat gcaaaccctt ggccagtgca agcatcagcc agaagaacca
3060
ccttcctcag gactcccagg acctggtcct cggtggggat gtgcccatca gctccatcca
3120
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3180
ttgccaggcc ctgcagagcc cccaggcctc ccgccagcca gcctcccaga gtctacccca
3240
atcccatctt cctccccacc ccccctttcc tccccactac ctgaggctcc ccagcctaag
3300
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gaggagccgc cagtgcctga agcccccagc tcggggcccc cctcctcctc cctggaattg
3360
ctggcctcct tgaccccaga ggccttctcc ctggacagct ccctgcgggg caaacagcgg
3420
atgagcaagc ataactttct gcaggcccat aacgggcaag ggctgcgggc cacccggccc
3480
tctgacgacc ccctcagcct tctggatcca ctctggacac tcaacaagac ctgaacaggt
3540
tttgcctacc tggtccttac actacatcat catcatctca tgcccacctg cccacaccca
3600
gcagagcttc tcagtgggca cagtctctta ctcccatttc tgctgccttt ggccctgcct
3660
ggcccagcct gcacccctgt ggggtggaaa tgtactgcag gctctgggtc aggttctgct
3720
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3780
tgtggcccgt aaaaaaaaaa aaaaaaaaaa
3810


<210> 5656
<211> 987
<212> PRT
<213> Homo sapiens


<400> 5656
Asp Leu Leu Glu Glu Asp Glu Leu Leu Glu Gln Lys Phe Gln Glu Ala
1               5                   10                  15
Val Gly Gln Ala Gly Xaa Pro Ser Pro Ser Xaa Ser Lys Ala Glu Leu
            20                  25                  30
Ala Glu Val Arg Arg Glu Trp Ala Lys Tyr Met Glu Val His Glu Lys
            35                  40                  45
Ala Ser Phe Thr Asn Ser Glu Leu His Arg Ala Met Asn Leu His Val
        50                  55                  60
Gly Asn Leu Arg Leu Leu Ser Gly Pro Leu Asp Gln Val Arg Ala Ala
65                  70                  75                  80
Leu Pro Thr Pro Ala Leu Ser Pro Glu Asp Lys Ala Val Leu Gln Asn
                85                  90                  95
Leu Lys Arg Ile Leu Ala Lys Val Gln Glu Met Arg Asp Gln Arg Val
            100                 105                 110
Ser Leu Glu Gln Gln Leu Arg Glu Leu Ile Gln Lys Asp Asp Ile Thr
        115                 120                 125
Ala Ser Leu Val Thr Thr Asp His Ser Glu Met Lys Lys Leu Phe Glu
        130                 135                 140
Glu Gln Leu Lys Lys Tyr Asp Gln Leu Lys Val Tyr Leu Glu Gln Asn
145                 150                 155                 160
Leu Ala Ala Gln Asp Arg Val Leu Cys Ala Leu Thr Glu Ala Asn Val
                165                 170                 175
Gln Tyr Ala Ala Val Arg Arg Val Leu Ser Asp Leu Asp Gln Lys Trp
            180                 185                 190
Asn Ser Thr Leu Gln Thr Leu Val Ala Ser Tyr Glu Ala Tyr Glu Asp
            195                 200                 205
Leu Met Lys Lys Ser Gln Glu Gly Arg Asp Phe Tyr Ala Asp Leu Glu
        210                 215                 220
Ser Lys Val Ala Ala Leu Leu Glu Arg Thr Gln Ser Thr Cys Gln Ala
```

4830

```
225                 230                 235                 240
Arg Glu Ala Ala Arg Gln Gln Leu Leu Asp Arg Glu Leu Lys Lys Lys
                245                 250                 255
Pro Pro Pro Arg Pro Thr Ala Pro Lys Pro Leu Leu Pro Arg Arg Glu
            260                 265                 270
Glu Ser Glu Ala Val Glu Ala Gly Asp Pro Pro Glu Glu Leu Arg Ser
        275                 280                 285
Leu Pro Pro Asp Met Val Ala Gly Pro Arg Leu Pro Asp Thr Phe Leu
    290                 295                 300
Gly Ser Ala Thr Pro Leu His Phe Pro Pro Ser Pro Phe Pro Ser Ser
305                 310                 315                 320
Thr Gly Pro Gly Pro His Tyr Leu Ser Gly Pro Leu Pro Pro Gly Thr
            325                 330                 335
Tyr Ser Gly Pro Thr Gln Leu Ile Gln Pro Arg Ala Pro Gly Pro His
        340                 345                 350
Ala Met Pro Val Ala Pro Gly Pro Ala Leu Tyr Pro Ala Pro Ala Tyr
    355                 360                 365
Thr Pro Glu Leu Gly Leu Val Pro Arg Ser Ser Pro Gln His Gly Val
    370                 375                 380
Val Ser Ser Pro Tyr Val Gly Val Gly Pro Ala Pro Pro Val Ala Gly
385                 390                 395                 400
Leu Pro Ser Ala Pro Pro Pro Gln Phe Ser Gly Pro Glu Leu Ala Met
            405                 410                 415
Ala Val Arg Pro Ala Thr Thr Thr Val Asp Ser Ile Gln Ala Pro Ile
        420                 425                 430
Pro Ser His Thr Ala Pro Arg Pro Asn Pro Thr Pro Ala Pro Pro Pro
    435                 440                 445
Pro Cys Phe Pro Val Pro Pro Gln Pro Leu Pro Thr Pro Tyr Thr
    450                 455                 460
Tyr Pro Ala Gly Ala Lys Gln Pro Ile Pro Ala Gln His His Phe Ser
465                 470                 475                 480
Ser Gly Ile Pro Thr Gly Phe Pro Ala Pro Arg Ile Gly Pro Gln Pro
            485                 490                 495
Gln Pro His Pro Gln Pro His Pro Ser Gln Ala Phe Gly Pro Gln Pro
        500                 505                 510
Pro Gln Gln Pro Leu Pro Leu Gln His Pro His Leu Phe Pro Pro Gln
        515                 520                 525
Ala Pro Gly Leu Leu Pro Pro Gln Ser Pro Tyr Pro Tyr Ala Pro Gln
    530                 535                 540
Pro Gly Val Leu Gly Gln Pro Pro Pro Leu His Thr Gln Leu Tyr
545                 550                 555                 560
Pro Gly Pro Ala Gln Asp Pro Leu Pro Ala His Ser Gly Ala Leu Pro
            565                 570                 575
Phe Pro Ser Pro Gly Pro Pro Gln Pro Pro His Pro Pro Leu Ala Tyr
        580                 585                 590
Gly Pro Ala Pro Ser Thr Arg Pro Met Gly Pro Gln Ala Ala Pro Leu
        595                 600                 605
Thr Ile Arg Gly Pro Ser Ser Ala Gly Gln Ser Thr Pro Ser Pro His
    610                 615                 620
Leu Val Pro Ser Pro Ala Pro Ser Pro Gly Pro Gly Pro Val Pro Pro
625                 630                 635                 640
Arg Pro Pro Ala Ala Glu Pro Pro Pro Cys Leu Arg Arg Gly Ala Ala
            645                 650                 655
Ala Ala Asp Leu Leu Ser Ser Ser Pro Glu Ser Gln His Gly Gly Thr
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              660                      665                      670
Gln Ser Pro Gly Gly Gly Gln Pro Leu Leu Gln Pro Thr Lys Val Asp
          675                  680                  685
Ala Ala Glu Gly Arg Arg Pro Gln Ala Leu Arg Leu Ile Glu Arg Asp
      690                  695                  700
Pro Tyr Glu His Pro Glu Arg Leu Arg Gln Leu Gln Gln Glu Leu Glu
705                      710                  715                  720
Ala Phe Arg Gly Gln Leu Gly Asp Val Gly Ala Leu Asp Thr Val Trp
              725                  730                  735
Arg Glu Leu Gln Asp Ala Gln Glu His Asp Ala Arg Gly Arg Ser Ile
          740                  745                  750
Ala Ile Ala Arg Cys Tyr Ser Leu Lys Asn Arg His Gln Asp Val Met
      755                  760                  765
Pro Tyr Asp Ser Asn Arg Val Val Leu Arg Ser Gly Lys Asp Asp Tyr
      770                  775                  780
Ile Asn Ala Ser Cys Val Glu Gly Leu Ser Pro Tyr Cys Pro Pro Leu
785                  790                  795                  800
Val Ala Thr Gln Ala Pro Leu Pro Gly Thr Ala Ala Asp Phe Trp Leu
              805                  810                  815
Met Val His Glu Gln Lys Val Ser Val Ile Val Met Leu Val Ser Glu
          820                  825                  830
Ala Glu Met Glu Lys Gln Lys Val Ala Arg Tyr Phe Pro Thr Glu Arg
          835                  840                  845
Gly Gln Pro Met Val His Gly Ala Leu Ser Leu Ala Leu Ser Ser Val
      850                  855                  860
Arg Ser Thr Glu Thr His Val Glu Arg Val Leu Ser Leu Gln Phe Arg
865                  870                  875                  880
Asp Gln Ser Leu Lys Arg Ser Leu Val His Leu His Phe Pro Thr Trp
              885                  890                  895
Pro Glu Leu Gly Leu Pro Asp Ser Pro Ser Asn Leu Leu Arg Phe Ile
          900                  905                  910
Gln Glu Val His Ala His Tyr Leu His Gln Arg Pro Leu His Thr Pro
      915                  920                  925
Ile Ile Val His Cys Ser Ser Gly Val Gly Arg Thr Gly Ala Phe Ala
      930                  935                  940
Leu Leu Tyr Ala Ala Val Gln Glu Val Glu Ala Gly Asn Gly Ile Pro
945                  950                  955                  960
Glu Leu Pro Gln Leu Val Arg Arg Met Arg Gln Gln Arg Lys His Met
              965                  970                  975
Leu Gln Glu Lys Leu His Leu Arg Xaa Leu Leu
          980                  985
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<210> 5657
<211> 1020
<212> DNA
<213> Homo sapiens

<400> 5657
tgcggacagt tgaagaagcg accgagggac tgggagtcgt tagtgaggat gacgcggcat
60
ggcaagaact gcaccgcagg cgccgtctac acctaccacg agaagaagaa ggacacagcg
120
gcctcgggct atgggaccca gaacattcga ctgagccggg atgccgtgaa ggacttcgac
180

tgctgttgtc tctccctgca gccttgccac gatcctgttg tcaccccaga tggctacctg
240
tatgagcgtg aggccatcct ggagtacatt ctgcaccaga agaaggagat tgcccggcag
300
atgaaggcct acgagaagca gcggggcacc cggcgcgagg agcagaagga gcttcagcgg
360
gcggcctcgc aggaccatgt gcggggcttc ctggagaagg agtcggctat cgtgagccgg
420
cccctcaacc ctttcacagc caaggccctc tcgggcacca gcccagatga tgtccaacct
480
gggcccagtg tgggtcctcc aagtaaggac aaggacaaag tgctgcccag cttctggatc
540
ccgtcgctga cgcccgaagc caaggccacc aagctggaga agccgtcccg cacggtgacc
600
tgccccatgt cagggaagcc cctgcgcatg tcggacctga cgcccgtgca cttcacaccg
660
ctagacagct ccgtggaccg cgtggggctc atcacccgca gcgagcgcta cgtgtgtgcc
720
gtgacccgcg acagcctgag caacgccacc ccctgcgctg tgctgcggcc ctctggggct
780
gtggtcaccc tcgaatgcgt ggagaagctg attcggaagg acatggtgga ccctgtgact
840
ggagacaaac tcacagaccg cgacatcatc gtgctgcagc ggggcggtac cggcttcgcg
900
ggctccggag tgaagctgca agcggagaaa tcacggccgg tgatgcaggc ctgagtgtgt
960
gcgggagacc aaataaaccg gcttgggtgc gcaaaaaaaa aaaaaaaaaa aaaaaaaaa
1020

<210> 5658
<211> 301
<212> PRT
<213> Homo sapiens

<400> 5658
Met Thr Arg His Gly Lys Asn Cys Thr Ala Gly Ala Val Tyr Thr Tyr
1   5   10   15
His Glu Lys Lys Lys Asp Thr Ala Ala Ser Gly Tyr Gly Thr Gln Asn
                20   25   30
Ile Arg Leu Ser Arg Asp Ala Val Lys Asp Phe Asp Cys Cys Cys Leu
            35   40   45
Ser Leu Gln Pro Cys His Asp Pro Val Val Thr Pro Asp Gly Tyr Leu
        50   55   60
Tyr Glu Arg Glu Ala Ile Leu Glu Tyr Ile Leu His Gln Lys Lys Glu
65   70   75   80
Ile Ala Arg Gln Met Lys Ala Tyr Glu Lys Gln Arg Gly Thr Arg Arg
                85   90   95
Glu Glu Gln Lys Glu Leu Gln Arg Ala Ala Ser Gln Asp His Val Arg
                100   105   110
Gly Phe Leu Glu Lys Glu Ser Ala Ile Val Ser Arg Pro Leu Asn Pro
            115   120   125
Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gln Pro
        130   135   140
Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro

4833

```
145                    150                    155                    160
Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu
                165                    170                    175
Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu
                180                    185                    190
Arg Met Ser Asp Leu Thr Pro Val His Phe Thr Pro Leu Asp Ser Ser
            195                    200                    205
Val Asp Arg Val Gly Leu Ile Thr Arg Ser Glu Arg Tyr Val Cys Ala
        210                    215                    220
Val Thr Arg Asp Ser Leu Ser Asn Ala Thr Pro Cys Ala Val Leu Arg
225                    230                    235                    240
Pro Ser Gly Ala Val Val Thr Leu Glu Cys Val Glu Lys Leu Ile Arg
                245                    250                    255
Lys Asp Met Val Asp Pro Val Thr Gly Asp Lys Leu Thr Asp Arg Asp
                260                    265                    270
Ile Ile Val Leu Gln Arg Gly Gly Thr Gly Phe Ala Gly Ser Gly Val
            275                    280                    285
Lys Leu Gln Ala Glu Lys Ser Arg Pro Val Met Gln Ala
    290                    295                    300
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<210> 5659
<211> 1263
<212> DNA
<213> Homo sapiens

<400> 5659
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tgggtgttct tctcagatgc ggtgctttta aaaaaaagtg taattattta atcctgagac
120
tcagagaagg cttagatcta tgcattgggt gttattctca gatgcagaga tgtaaatgcc
180
atttttctct tctgttttca ggtcacatgt gccaatttaa cgaacggtgg aaagtcagaa
240
cttctgaaat caggaagcag caaatccaca ctaaagcaca tatggacaga aagcagcaaa
300
gacttgtcta tcagccgact cctgtcacag acttttcgtg gcaaagagaa tgatacagat
360
ttggacctga gatatgacac cccagaacct tattctgagc aagacctctg ggactggctg
420
aggaactcca cagaccttca gagcctcgg cccagggcca agagaaggcc cattgttaaa
480
acgggcaagt ttaagaaaat gtttggatgg ggcgattttc attccaacat caaaacagtg
540
aagctgaacc tgttgataac tgggaaaatt gtagatcatg caatgggac atttagtgtt
600
tatttcaggc ataattcaac tggtcaaggg aatgtatctg tcagcttggt accccctaca
660
aaaatcgtgg aatttgactt ggcacaacaa accgtgattg atgccaaaga ttccaagtct
720
tttaattgtc gcattgaata tgaaaaggtt gacaaggcta ccaagaacac actctgcaac
780
tatgaccctt caaaaacctg ttaccaggag caaacccaaa gtcatgtatc ctggctctgc
840
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tccaagccct ttaaggtgat ctgtatttac atttcctttt atagtacaga ttataaactg
900
gtacagaaag tgtgccctga ctacaactac cacagtgaca caccttactt tccctcggga
960
tgaaggtgaa catggggtg agactgaagc ctgaggaatt aaaggtcata tgacagggct
1020
gttacctcaa agaagaaggt cacatctgtt gcctggaatg tgtctacact gctgctcttg
1080
tcaactggct gcaaaataca ctagtggaaa acactctgat gtaatttctg cccagtcagc
1140
ttcatccctc agtataattg taaatcatca cagattttga attcacacct gaagacatgc
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1260
att
1263

<210> 5660
<211> 253
<212> PRT
<213> Homo sapiens

<400> 5660
Val Thr Cys Ala Asn Leu Thr Asn Gly Gly Lys Ser Glu Leu Leu Lys
1   5   10   15
Ser Gly Ser Ser Lys Ser Thr Leu Lys His Ile Trp Thr Glu Ser Ser
            20   25   30
Lys Asp Leu Ser Ile Ser Arg Leu Leu Ser Gln Thr Phe Arg Gly Lys
        35   40   45
Glu Asn Asp Thr Asp Leu Asp Leu Arg Tyr Asp Thr Pro Glu Pro Tyr
    50   55   60
Ser Glu Gln Asp Leu Trp Asp Trp Leu Arg Asn Ser Thr Asp Leu Gln
65   70   75   80
Glu Pro Arg Pro Arg Ala Lys Arg Arg Pro Ile Val Lys Thr Gly Lys
                85   90   95
Phe Lys Lys Met Phe Gly Trp Gly Asp Phe His Ser Asn Ile Lys Thr
                100   105   110
Val Lys Leu Asn Leu Leu Ile Thr Gly Lys Ile Val Asp His Gly Asn
            115   120   125
Gly Thr Phe Ser Val Tyr Phe Arg His Asn Ser Thr Gly Gln Gly Asn
        130   135   140
Val Ser Val Ser Leu Val Pro Pro Thr Lys Ile Val Glu Phe Asp Leu
145   150   155   160
Ala Gln Gln Thr Val Ile Asp Ala Lys Asp Ser Lys Ser Phe Asn Cys
                165   170   175
Arg Ile Glu Tyr Glu Lys Val Asp Lys Ala Thr Lys Asn Thr Leu Cys
            180   185   190
Asn Tyr Asp Pro Ser Lys Thr Cys Tyr Gln Glu Gln Thr Gln Ser His
        195   200   205
Val Ser Trp Leu Cys Ser Lys Pro Phe Lys Val Ile Cys Ile Tyr Ile
    210   215   220
Ser Phe Tyr Ser Thr Asp Tyr Lys Leu Val Gln Lys Val Cys Pro Asp
225   230   235   240
Tyr Asn Tyr His Ser Asp Thr Pro Tyr Phe Pro Ser Gly

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                 245                      250

<210> 5661
<211> 578
<212> DNA
<213> Homo sapiens


<400> 5661
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actggatgcc ttggagcatg caagtccaga gcaccctggg agccctggtg catgggaccc
120
ataacccagt gcacggcaag gacccagcag gaagcaccag ccactggccc cgacctcccg
180
cacccaggac ctgacgggca cttagacaca cacagtggcc tgagctccaa ctccagcatg
240
accacgcggg agcttcagca gtactggcag aaccagaaat gccgctggaa gcacgtcaaa
300
ctgctctttg agatcgcttc agctcgcatc gaggagagaa aagtctctaa gtttgtgatg
360
gggaaatcaa ggcctggaga gatgacttat ccagggtcac gtggcgagac agggacagca
420
ccagaaccag acccgagatg tccacgtcaa agtgacatgc tctgagaggc agcacacaca
480
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540
tgcagggtca gtgctgaggc ctgggcaggg ccgctagc
578


<210> 5662
<211> 148
<212> PRT
<213> Homo sapiens


<400> 5662
Met Thr Leu Leu Pro Asp Pro Trp Thr His Thr Ala Leu Gly Thr Gly
 1               5                  10                  15
Cys Leu Gly Ala Cys Lys Ser Arg Ala Pro Trp Glu Pro Trp Cys Met
                20                  25                  30
Gly Pro Ile Thr Gln Cys Thr Ala Arg Thr Gln Gln Glu Ala Pro Ala
            35                  40                  45
Thr Gly Pro Asp Leu Pro His Pro Gly Pro Asp Gly His Leu Asp Thr
        50                  55                  60
His Ser Gly Leu Ser Ser Asn Ser Ser Met Thr Thr Arg Glu Leu Gln
65                  70                  75                  80
Gln Tyr Trp Gln Asn Gln Lys Cys Arg Trp Lys His Val Lys Leu Leu
                85                  90                  95
Phe Glu Ile Ala Ser Ala Arg Ile Glu Glu Arg Lys Val Ser Lys Phe
                100                 105                 110
Val Met Gly Lys Ser Arg Pro Gly Glu Met Thr Tyr Pro Gly Ser Arg
            115                 120                 125
Gly Glu Thr Gly Thr Ala Pro Glu Pro Asp Pro Arg Cys Pro Arg Gln
        130                 135                 140
Ser Asp Met Leu
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145

<210> 5663
<211> 857
<212> DNA
<213> Homo sapiens

<400> 5663
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tgactcactg gctaggagtg ccccatgccc agttcttaga gacccttgat agctcctaga
120
agacaggagg ctgccgtggt caagaagggc caagccttga agtctcacgg cacccccctgt
180
ggtggaggta taaggctcag gggccaacta ctgggtcttg cagtccccat cgttgctgtg
240
ggctgtcttc accttcttta gttccttctg tagctcagac tcggccacca caacctcctt
300
tggcttctgg taagagatga tcagggtgca gttggcgtgg gcaaagctca gcaaggcgtc
360
atccagaggt agctggtgtc tatctagatc aggaatggag aacttcttgt agtacttctt
420
gttggttgtt ctgacaatga tgcagcgctc cttctggtcc acagagacac tatagacatc
480
cttaggatag gggaggtttc gaatccgcca ctggaaactc atcttggtgt ccttgcgcat
540
gaagatagga ttggcattgc tttccttgat gagttcaggc cccaggttcc ctgctcctag
600
gggcgctggg tctcctactt caagctgcca ctggcccatg gctcccaggg cacttttcac
660
acgccacttt ctcacaagta gttcactcgt cttctcgtca tattcttcag ccatttcctt
720
gccgtctggg aataaatagt gaaccttcct tctcccgtcc tgcagcagcg cagtcttctg
780
ggctgtccgc agactctcca accagcccgt caccgccatc tttcccctgc taagcagcac
840
gcccagccgc tgccatg
857

<210> 5664
<211> 203
<212> PRT
<213> Homo sapiens

<400> 5664
Met Ala Val Thr Gly Trp Leu Glu Ser Leu Arg Thr Ala Gln Lys Thr
1   5   10   15
Ala Leu Leu Gln Asp Gly Arg Arg Lys Val His Tyr Leu Phe Pro Asp
            20   25   30
Gly Lys Glu Met Ala Glu Glu Tyr Asp Glu Lys Thr Ser Glu Leu Leu
        35   40   45
Val Arg Lys Trp Arg Val Lys Ser Ala Leu Gly Ala Met Gly Gln Trp
    50   55   60
Gln Leu Glu Val Gly Asp Pro Ala Pro Leu Gly Ala Gly Asn Leu Gly

```
65                    70                    75                    80
Pro Glu Leu Ile Lys Glu Ser Asn Ala Asn Pro Ile Phe Met Arg Lys
                85                    90                    95
Asp Thr Lys Met Ser Phe Gln Trp Arg Ile Arg Asn Leu Pro Tyr Pro
            100                   105                   110
Lys Asp Val Tyr Ser Val Ser Val Asp Gln Lys Glu Arg Cys Ile Ile
            115                   120                   125
Val Arg Thr Thr Asn Lys Lys Tyr Tyr Lys Lys Phe Ser Ile Pro Asp
        130                   135                   140
Leu Asp Arg His Gln Leu Pro Leu Asp Asp Ala Leu Leu Ser Phe Ala
145                   150                   155                   160
His Ala Asn Cys Thr Leu Ile Ile Ser Tyr Gln Lys Pro Lys Glu Val
                165                   170                   175
Val Val Ala Glu Ser Glu Leu Gln Lys Glu Leu Lys Lys Val Lys Thr
            180                   185                   190
Ala His Ser Asn Asp Gly Asp Cys Lys Thr Gln
        195                   200
```

<210> 5665
<211> 531
<212> DNA
<213> Homo sapiens

<400> 5665
```
gtcaagtcct gtaggcagca tagggccctg gctcagcttt tctctgcaga ggcctcgctt
60
gagtgggtgg ggtttgcccg cccgcagatc tccacgggag ggggaggggt caggcctccc
120
cagcggccct ctgaagtcac ttgcttcacg gaggtgttac tgtctgctgc tggacagagc
180
atgatggggg ctgcaagggc tccctcaaac cctggactcc tccaacagag ggctcctggt
240
tgccaggctc agctctgccc tgcgtcggcc ccagggcgta gggagggtgt ttaatcctgg
300
cccgggcctt ccccgcaggt ggagcgcgtg tcgcacccgc tgctgcagca gcagtatgag
360
ctgtaccggg agcgcctgct gcagcgatgc gagcggcgcc cggtggagca ggtgctgtac
420
cacggcacga cggcaccggc agtgcctgac atctgcgccc acggcttcaa ccgcagcttc
480
tgcggccgca cgccacggt ctacgggaag ggcgtgtatt cgccaggcg c
531
```

<210> 5666
<211> 79
<212> PRT
<213> Homo sapiens

<400> 5666
```
Ser Trp Pro Gly Pro Ser Pro Gln Val Glu Arg Val Ser His Pro Leu
1               5                   10                  15
Leu Gln Gln Gln Tyr Glu Leu Tyr Arg Glu Arg Leu Leu Gln Arg Cys
            20                  25                  30
Glu Arg Arg Pro Val Glu Gln Val Leu Tyr His Gly Thr Thr Ala Pro
```

```
          35                40                45
Ala Val Pro Asp Ile Cys Ala His Gly Phe Asn Arg Ser Phe Cys Gly
     50                55                60
Arg Asn Ala Thr Val Tyr Gly Lys Gly Val Tyr Phe Ala Arg Arg
65                70                75
```

```
<210> 5667
<211> 858
<212> DNA
<213> Homo sapiens
```

```
<400> 5667
nattcggcac gaggtagtca aagtatgcag cctccaatta ttccactctt ccctgttgtc
60
aagaaagata tgacatttct acatgaagga aatgactcca aagtagatgg tttagtaaac
120
tttgagaagt taagaatgat ttccaaggaa atccgccaag ttgttcgaat gacttctgct
180
aacatggacc cagctatgat gtttcgacag aggtcactga gtcaaggaag cacaaattca
240
aacatgctgg atgttcaggg aggtgctcac aaaaaaaggg cacgccgcag ctctctgctt
300
aatgccaaga agctatatga ggatgcccaa atggcaagga aggtgaagca gtatctttcc
360
agtctcgatg tagagacaga tgaggagaag ttccagatga tgtcattaca gntggagcct
420
gcatatggta cctgtgagta caagttttca tttatgtgac gctaaagagc acaacaaaat
480
aaaaacttat ttctctagaa ttatacctaa gtcccaagaa aattaacttt cactcacaaa
540
agattgctgg cataccttaa gcatcatgtg atccaattaa tcacagactg aatcccatcc
600
attcctgatg gctacactat ccaaaaaata gagggataag tagatcttta aaaagctttt
660
taattctttt aaaaactgga tcattataga ggaggctttc tgtttgagaa cattttttata
720
ttcatcccta aagagtaaac ataagtggaa tttttacctc tttttatttc atggataata
780
tttaccaact agaaaatata agaaatttga ttaaaacacc agtgataata ggtagcttac
840
aggtgccagt agtaaggt
858
```

```
<210> 5668
<211> 152
<212> PRT
<213> Homo sapiens
```

```
<400> 5668
Xaa Ser Ala Arg Gly Ser Gln Ser Met Gln Pro Pro Ile Ile Pro Leu
1               5               10               15
Phe Pro Val Val Lys Lys Asp Met Thr Phe Leu His Glu Gly Asn Asp
          20                25                30
Ser Lys Val Asp Gly Leu Val Asn Phe Glu Lys Leu Arg Met Ile Ser
```

4839

```
          35                    40                    45
Lys Glu Ile Arg Gln Val Val Arg Met Thr Ser Ala Asn Met Asp Pro
          50                    55                    60
Ala Met Met Phe Arg Gln Arg Ser Leu Ser Gln Gly Ser Thr Asn Ser
65                    70                    75                    80
Asn Met Leu Asp Val Gln Gly Gly Ala His Lys Lys Arg Ala Arg Arg
                    85                    90                    95
Ser Ser Leu Leu Asn Ala Lys Lys Leu Tyr Glu Asp Ala Gln Met Ala
                    100                   105                   110
Arg Lys Val Lys Gln Tyr Leu Ser Ser Leu Asp Val Glu Thr Asp Glu
          115                   120                   125
Glu Lys Phe Gln Met Met Ser Leu Gln Xaa Glu Pro Ala Tyr Gly Thr
          130                   135                   140
Cys Glu Tyr Lys Phe Ser Phe Met
145                   150
```

```
<400> 5669
tttgtgctgt cacccggcac agaccctgct gccgacctct acaagtttgc cgaagaaatg
60
aagttctcca aaaagctctc tgccatctcc ctgggccagg ggcagggccc tcgggcagaa
120
gccatgatgc gcagctccat agagaggggc aaatgggtct tcttccagaa ctgccacctg
180
gcaccaagct ggatgccagc cctagaacgc ctcatcgagc acatcaaccc cgacaaggta
240
cacagggact tccgcctctg gctcaccagc ctgcccagca caagttccc agtgtccatc
300
ctgcagaacg gctccaagat gaccattgag ccgccacgcg gtgtcagggc caacctgctg
360
aagtcctata gtagccttgg tgaagacttc ctcaactcct gccacaaggt gatggagttc
420
aagtctctgc tgctgtctct gtgcttgttc catgggaacg ccctggagcg ccgtaagttt
480
gggcccctgg gcttcaacat cccctatgag ttcacggatg gagatctgcg catctgcatc
540
agccagctca agatgttcct ggacgaatat gatgacatcc cctacaaggt cctcaagtac
600
acggcagggg agatcaatta cggggggccgt gtcactgatg actgggaccg gcgctgcatc
660
atgaacatct tggaggactt ctacaaccct gacgtgctct ccctgagca cagctacagc
720
gcctcgggca tctaccacca gatcccgcct acctacgacc tccacggcta cctctcctac
780
atcaagagcc tcccactcaa tgatatgcct gagatctttg gcctgcatga caatgccaac
840
atcacctttg cccagaacga gacgttcgcc ctcctgggca ccatcatcca gctgcaaccc
900
aaatcatctt ctgcaggcag ccagggccgg gaggagatag tggaggacgt cacccaaaac
960
```

```
attctgctca aggtgcctga gcctatcaac ttgcaatggg tgatggccaa gtacccagtg
1020
ctgtatgagg aatcaatgaa cacagtacta gtacaagagg tcattaggta caatcggctg
1080
ctgcaggtga tcacacagac actgcaagac ctactcaagg cactcaaggg gctggtagtg
1140
atgtcctctc agctggagct gatggctgcc agcctgtaca acaatactgt gcctgagctc
1200
tggagtgcca aggcctaccc atcgctcaag cctctgtcat catgggtcat ggacctgctg
1260
caacgcctgg actttctgca ggcctggatc caagatggca tcccagctgt cttctggatc
1320
agtggattct tcttcccca ggctttctta acaggcactc tgcagaattt tgcccgcaaa
1380
tttgtcatct ccattgacac catctccttt gatttcaagg tgatgtttga ggcaccatca
1440
gagttaacac aaagacccca agtagggtgc tatatccatg gattattcct ggaaggtgcc
1500
cgctgggatc cagaggcctt ccagctggct gagtctcagc ccaaggagct gtacacagag
1560
atggccgtta tctggctctt gccaacaccc aaccgcaagg cccaggacca ggacttttac
1620
ctgtgcccca tctacaagac actgactcgt gctggaacac tatcaaccac aggacactct
1680
accaactatg tcattgctgt ggagatcccc acccatcagc cccagcgaca ctggataaag
1740
cgtggtgtgg ccctcatctg tgccctggac tactagactc agacagaagg gctggggcca
1800
ttaaagctga attttctaag caaaaaaaaa aaaaaaaaa aa
1842


<210> 5670
<211> 591
<212> PRT
<213> Homo sapiens

<400> 5670
Phe Val Leu Ser Pro Gly Thr Asp Pro Ala Ala Asp Leu Tyr Lys Phe
1               5                   10                  15
Ala Glu Glu Met Lys Phe Ser Lys Lys Leu Ser Ala Ile Ser Leu Gly
                20                  25                  30
Gln Gly Gln Gly Pro Arg Ala Glu Ala Met Met Arg Ser Ser Ile Glu
            35                  40                  45
Arg Gly Lys Trp Val Phe Phe Gln Asn Cys His Leu Ala Pro Ser Trp
        50                  55                  60
Met Pro Ala Leu Glu Arg Leu Ile Glu His Ile Asn Pro Asp Lys Val
65                  70                  75                  80
His Arg Asp Phe Arg Leu Trp Leu Thr Ser Leu Pro Ser Asn Lys Phe
                    85                  90                  95
Pro Val Ser Ile Leu Gln Asn Gly Ser Lys Met Thr Ile Glu Pro Pro
                100                 105                 110
Arg Gly Val Arg Ala Asn Leu Leu Lys Ser Tyr Ser Ser Leu Gly Glu
            115                 120                 125
Asp Phe Leu Asn Ser Cys His Lys Val Met Glu Phe Lys Ser Leu Leu
```

4841

```
         130                     135                     140
Leu Ser Leu Cys Leu Phe His Gly Asn Ala Leu Glu Arg Arg Lys Phe
145                     150                     155                     160
Gly Pro Leu Gly Phe Asn Ile Pro Tyr Glu Phe Thr Asp Gly Asp Leu
                    165                     170                     175
Arg Ile Cys Ile Ser Gln Leu Lys Met Phe Leu Asp Glu Tyr Asp Asp
                180                     185                     190
Ile Pro Tyr Lys Val Leu Lys Tyr Thr Ala Gly Glu Ile Asn Tyr Gly
                195                     200                     205
Gly Arg Val Thr Asp Asp Trp Asp Arg Arg Cys Ile Met Asn Ile Leu
        210                     215                     220
Glu Asp Phe Tyr Asn Pro Asp Val Leu Ser Pro Glu His Ser Tyr Ser
225                     230                     235                     240
Ala Ser Gly Ile Tyr His Gln Ile Pro Pro Thr Tyr Asp Leu His Gly
                    245                     250                     255
Tyr Leu Ser Tyr Ile Lys Ser Leu Pro Leu Asn Asp Met Pro Glu Ile
                260                     265                     270
Phe Gly Leu His Asp Asn Ala Asn Ile Thr Phe Ala Gln Asn Glu Thr
                275                     280                     285
Phe Ala Leu Leu Gly Thr Ile Ile Gln Leu Gln Pro Lys Ser Ser Ser
        290                     295                     300
Ala Gly Ser Gln Gly Arg Glu Glu Ile Val Glu Asp Val Thr Gln Asn
305                     310                     315                     320
Ile Leu Leu Lys Val Pro Glu Pro Ile Asn Leu Gln Trp Val Met Ala
                    325                     330                     335
Lys Tyr Pro Val Leu Tyr Glu Glu Ser Met Asn Thr Val Leu Val Gln
                340                     345                     350
Glu Val Ile Arg Tyr Asn Arg Leu Leu Gln Val Ile Thr Gln Thr Leu
                355                     360                     365
Gln Asp Leu Leu Lys Ala Leu Lys Gly Leu Val Val Met Ser Ser Gln
        370                     375                     380
Leu Glu Leu Met Ala Ala Ser Leu Tyr Asn Asn Thr Val Pro Glu Leu
385                     390                     395                     400
Trp Ser Ala Lys Ala Tyr Pro Ser Leu Lys Pro Leu Ser Ser Trp Val
                    405                     410                     415
Met Asp Leu Leu Gln Arg Leu Asp Phe Leu Gln Ala Trp Ile Gln Asp
                420                     425                     430
Gly Ile Pro Ala Val Phe Trp Ile Ser Gly Phe Phe Phe Pro Gln Ala
        435                     440                     445
Phe Leu Thr Gly Thr Leu Gln Asn Phe Ala Arg Lys Phe Val Ile Ser
        450                     455                     460
Ile Asp Thr Ile Ser Phe Asp Phe Lys Val Met Phe Glu Ala Pro Ser
465                     470                     475                     480
Glu Leu Thr Gln Arg Pro Gln Val Gly Cys Tyr Ile His Gly Leu Phe
                485                     490                     495
Leu Glu Gly Ala Arg Trp Asp Pro Glu Ala Phe Gln Leu Ala Glu Ser
            500                     505                     510
Gln Pro Lys Glu Leu Tyr Thr Glu Met Ala Val Ile Trp Leu Leu Pro
            515                     520                     525
Thr Pro Asn Arg Lys Ala Gln Asp Gln Asp Phe Tyr Leu Cys Pro Ile
            530                     535                     540
Tyr Lys Thr Leu Thr Arg Ala Gly Thr Leu Ser Thr Thr Gly His Ser
545                     550                     555                     560
Thr Asn Tyr Val Ile Ala Val Glu Ile Pro Thr His Gln Pro Gln Arg
```

```
                    565               570               575
His Trp Ile Lys Arg Gly Val Ala Leu Ile Cys Ala Leu Asp Tyr
              580               585               590
```

<210> 5671
<211> 818
<212> DNA
<213> Homo sapiens
<400> 5671

```
nngcgcgcca gggaaagtgg aagttggatt ctgaaagatc gaggtgccca caggaatttt
60
atggtcgtcg gattttgaag acttgaacta gactgggggt tctccttgca tttcttgcct
120
gttgcctatc tttgtcctct ctcttccggc ttcgagatga atgtgcagcc ctgttctagg
180
tgtgggtatg gggtttatcc tgccgagaag atcagctgta tagatcagat atggcataaa
240
gcctgttttc actgtgaagt ttgcaagatg atgctgtctg ttaataactt tgtgagtcac
300
cagaaaaagc cgtactgtca cgcccataac cctaagaaca acactttcac cagtgtctat
360
cacactccat taaatctaaa tgtgaggaca tttccagagg ccatcagtgg gatccatgac
420
caagaagatg gtgaacagtg taaatcagtt tttcattggg acatgaaatc caaggataag
480
gaaggtgcac ctaacaggca gccactggca aatgagagag cctattggac tggatatggg
540
gaagggaatg cttggtgccc aggagctctg ccagaccccg aaattgtaag gatggttgag
600
gctcgaaagt ctcttggtga ggaatataca gaagactatg agcaacccag gggcaagggg
660
agctttccag ccatgatcac acctgcttat caaagggcca agaaagccaa ccagctggcc
720
agccaagtgg agtataagag agggcatgat gaacgcatct ccaggttctc cacggtggcg
780
gatactcctg agctgctacg gagcaaggct tggggcac
818
```

<210> 5672
<211> 220
<212> PRT
<213> Homo sapiens

<400> 5672

```
Met Asn Val Gln Pro Cys Ser Arg Cys Gly Tyr Gly Val Tyr Pro Ala
1               5                   10                  15
Glu Lys Ile Ser Cys Ile Asp Gln Ile Trp His Lys Ala Cys Phe His
              20                  25                  30
Cys Glu Val Cys Lys Met Met Leu Ser Val Asn Asn Phe Val Ser His
          35                  40                  45
Gln Lys Lys Pro Tyr Cys His Ala His Asn Pro Lys Asn Asn Thr Phe
      50                  55                  60
Thr Ser Val Tyr His Thr Pro Leu Asn Leu Asn Val Arg Thr Phe Pro
65                  70                  75                  80
```

```
Glu Ala Ile Ser Gly Ile His Asp Gln Glu Asp Gly Glu Gln Cys Lys
                85                  90                  95
Ser Val Phe His Trp Asp Met Lys Ser Lys Asp Lys Glu Gly Ala Pro
           100                 105                 110
Asn Arg Gln Pro Leu Ala Asn Glu Arg Ala Tyr Trp Thr Gly Tyr Gly
        115                 120                 125
Glu Gly Asn Ala Trp Cys Pro Gly Ala Leu Pro Asp Pro Glu Ile Val
    130                 135                 140
Arg Met Val Glu Ala Arg Lys Ser Leu Gly Glu Glu Tyr Thr Glu Asp
145                 150                 155                 160
Tyr Glu Gln Pro Arg Gly Lys Gly Ser Phe Pro Ala Met Ile Thr Pro
                165                 170                 175
Ala Tyr Gln Arg Ala Lys Lys Ala Asn Gln Leu Ala Ser Gln Val Glu
            180                 185                 190
Tyr Lys Arg Gly His Asp Glu Arg Ile Ser Arg Phe Ser Thr Val Ala
        195                 200                 205
Asp Thr Pro Glu Leu Leu Arg Ser Lys Ala Trp Gly
    210                 215                 220
```

```
<210> 5673
<211> 1279
<212> DNA
<213> Homo sapiens
```

```
<400> 5673
nttttttttt tttgaagcca gcatttccct ttatttctgg atggaaacgg ggccctaaaa
60
gcagaaatca atatttttgt ttgaaagatg cagtcatgct aatttcactt ttggctaaaa
120
ccgagacgat aaaagaacag ttgggtgttt ataggatgcc ctcaaagtga gctggctaag
180
tgagctgggc tctaacttca ctcacaaatt tatagtacag ctaagaaggc cagtctgtcc
240
atgaaaggga gccgagacaa gacgagggcg gcctcttcca ggcctgtgcc aagtgtcctt
300
ggggtcccgc catggtccac acttctgcag catccgcaga acatgtggcc gggtcctgcc
360
cagcagcagg gacagccaag tgggaggcag gcatggtgca cacctgggga ggcccctggt
420
gcagaagcag ccccacagta gcagccccat ccagaggaag accactccgg agggccacag
480
gcctctgcag ccctggcact gccgcccagc cctccatctc agcgggatgt gcagggtgag
540
acaggaatgc agggacgttc tgccctagg tcagcctctt catccgcctg ttgtgcttcg
600
atggtcaagg ttgccctgtc cacagctgct gcaacgccat ccagggcttc gtcttgtctc
660
tccagctcac tctcggcctc cgggccagcc ccttcatcct cctcaggatc tgggttagtt
720
cctgggtatc tgcctcagaa agggctggca ggcttgtctg caggtgcagt gctgtgccct
780
cctggtctcc tgcgggtggc tcacggtgca gggtacggcc atcagccca gatgctgcat
840
```

```
gccagactga gcagctcttc tctgcggggg aagaggttct tgcgcttctg agcaccaatg
900
catcttctaa cagctccatc ttcttgctga actgcacttc taaaatgggg ataacctctg
960
gcatcttggc agatatcaaa cgataggcca tgtctggctt tccaataaac cgctggcgga
1020
tgctaatttc gtaaggtgag tggaccttga tgtcgtccac gtcttctctt tcaaacctgt
1080
gcatgagcaa agaactggag tcatgtattt ccaacccaga cacaaggacg gtgagcctcc
1140
ctggtttaac gtgagactct gttctgtggg aaataacagc aggaattttt atcagtatcc
1200
cttctttccc aaagggttca caactggtca tggagacatc ttccctgggc tttgtttccg
1260
gtggtgtctt ccaaagctt
1279
```

```
<210> 5674
<211> 81
<212> PRT
<213> Homo sapiens
```

```
<400> 5674
Leu His Ser Gln Ile Tyr Ser Thr Ala Lys Lys Ala Ser Leu Ser Met
1               5                   10                  15
Lys Gly Ser Arg Asp Lys Thr Arg Ala Ala Ser Ser Arg Pro Val Pro
            20                  25                  30
Ser Val Leu Gly Val Pro Pro Trp Ser Thr Leu Leu Gln His Pro Gln
        35                  40                  45
Asn Met Trp Pro Gly Pro Ala Gln Gln Gln Gly Gln Pro Ser Gly Arg
    50                  55                  60
Gln Ala Trp Cys Thr Pro Gly Glu Ala Pro Gly Ala Glu Ala Ala Pro
65                  70                  75                  80
Gln
```

```
<210> 5675
<211> 1074
<212> DNA
<213> Homo sapiens
```

```
<400> 5675
nttttccact aaatacaaa ctttattctc tctccaagaa gatgcagacg tcacaggtgg
60
ccctgagctc ccacccgagg cttaggccca aggggcctct tccaggctga gggcctgctg
120
gggctgggcc aggggctgag gctgaaagca gcagcctgcc tagtgggtga cgccaggggc
180
cggtgtaaca tggcaccgag gttggggcca cagcaatgtg tgggacggtg gggtgggctg
240
gggcccttgg ctccaagcat tagttctcca agctctggtc cgttctccta cctccttcaa
300
ggggcaccag ggctacaagg tggtagttga gtattggggc cgactcctg gggcactgga
360
```

.

```
gtggtctcta ggcccgaggc cccaaggaga gggctgggtt tctgggagag tgctggtcct
420
tcctctctgg gcttggccat cttgacagct tcatcgtagg agggtggagg ctccggggtg
480
tacaggctgt aggcaggagg agccgtggag tccaggtcca gctccccaaa gggcaggggc
540
aaccgcatgc ccagtgggta ctgcacggag ctgtaggagg tcacagtgct gtgtacaggg
600
ctgtcactgt ccatagggat gactgccacg tcgcagggct gccgtgctgg tggcagatgt
660
ggctgggcct gtgcctgctt ccggaggcag cagaaccgga cacaaccagc tgtgacacca
720
cacagcagaa gcaggaggac cgccagcagg atgagcctag gagagcaagg ctctaccact
780
ggactgaccc tcggccaccg ggcacctgca ccctggggaa tgtcgtggca caaccaccga
840
agacaggtta acaggataaa aagcagacaa tgtctctcca tgtcggagac cgccgtggcc
900
agagcctggc ctcgggctgc tgggcctgcc ctggctatct ctcctgggct ggccaggggt
960
ggccttgggc tcactcccag gactcgctgt cctcagcgag tgccccactg ctgagcggga
1020
tcgtagggga ctcccgcgga ggccaggcgg gagagttggg agggaaggtc ctgg
1074

<210> 5676
<211> 145
<212> PRT
<213> Homo sapiens

<400> 5676
Glu Val Thr Val Leu Cys Thr Gly Leu Ser Leu Ser Ile Gly Met Thr
1               5                   10                  15
Ala Thr Ser Gln Gly Cys Arg Ala Gly Gly Arg Cys Gly Trp Ala Cys
            20                  25                  30
Ala Cys Phe Arg Arg Gln Gln Asn Arg Thr Gln Pro Ala Val Thr Pro
            35                  40                  45
His Ser Arg Ser Arg Arg Thr Ala Ser Arg Met Ser Leu Gly Glu Gln
        50                  55                  60
Gly Ser Thr Thr Gly Leu Thr Leu Gly His Arg Ala Pro Ala Pro Trp
65                  70                  75                  80
Gly Met Ser Trp His Asn His Arg Arg Gln Val Asn Arg Ile Lys Ser
                85                  90                  95
Arg Gln Cys Leu Ser Met Ser Glu Thr Ala Val Ala Arg Ala Trp Pro
            100                 105                 110
Arg Ala Ala Gly Pro Ala Leu Ala Ile Ser Pro Gly Leu Ala Arg Gly
            115                 120                 125
Gly Leu Gly Leu Thr Pro Arg Thr Arg Cys Pro Gln Arg Val Pro His
        130                 135                 140
Cys
145

<210> 5677
<211> 477
```

<212> DNA
<213> Homo sapiens

<400> 5677
agcagctgtt cctctttgaa gaggtcgatg ctgaaaggag gccgcctgac tccatggcaa
60
aaaaggacac tggtgaagta gcggtagcac tcctccacgt tgcccaaggg ggttgctggt
120
agggaaagca agatgcagca gtgaggccct ctctggtatc cattcattca cttcactcaa
180
cagctgttta tgaccatgag caatacaagc cttgtgaaga tcctggagca gggcacaagc
240
cgctgacgtc tgctccagtg agaagccctg ctgccttccc caattcgctt tctttccgca
300
gccgccgctg ccccgacccc ggatctgcat gtggaagtac ctggacgtcc attccatgca
360
ccagctggag aagaccacca atgctgagat gagggaggtg ctggctgagc tgctggagct
420
agggtgtcct gagcagagcc tgagcgacgc catcaccctg gacctcttct gccgcgg
477

<210> 5678
<211> 151
<212> PRT
<213> Homo sapiens

<400> 5678
Met Ala Ser Leu Arg Leu Cys Ser Gly His Pro Ser Ser Ser Ser Ser
1   5   10   15
Ala Ser Thr Ser Leu Ile Ser Ala Leu Val Val Phe Ser Ser Trp Cys
            20   25   30
Met Glu Trp Thr Ser Arg Tyr Phe His Met Gln Ile Arg Gly Arg Gly
        35   40   45
Ser Gly Gly Cys Gly Lys Lys Ala Asn Trp Gly Arg Gln Gln Gly Phe
    50   55   60
Ser Leu Glu Gln Thr Ser Ala Ala Cys Ala Leu Leu Gln Asp Leu His
65   70   75   80
Lys Ala Cys Ile Ala His Gly His Lys Gln Leu Leu Ser Glu Val Asn
                85   90   95
Glu Trp Ile Pro Glu Arg Ala Ser Leu Leu His Leu Ala Phe Pro Thr
                100   105   110
Ser Asn Pro Leu Gly Gln Arg Gly Gly Val Leu Pro Leu Leu His Gln
            115   120   125
Cys Pro Phe Leu Pro Trp Ser Gln Ala Ala Ser Phe Gln His Arg Pro
        130   135   140
Leu Gln Arg Gly Thr Ala Ala
145   150

<210> 5679
<211> 665
<212> DNA
<213> Homo sapiens

<400> 5679

```
nngcccctcc aggagggagc cgggagatta cgcagctcca tgtaggtcta cgtttaggtt
60
gggaggatct accatgaaga aggtcaagaa gaaaaggtca gaggccagac gccaccggac
120
tccacctccc agcatgctgg ctccaattcc acctctcagc agcctagccc tgaatccaca
180
ccacagcagc ctagtcctga atccacacca cagcagccta gccctgaatc cacaccacag
240
cattccagcc ttgaaaccac ctcccggcag ccagcattcc aagcccttcc agcacccgaa
300
atccgccgct cctcttgctg ccttttatct ccagatgcta acgtgaaggc agcccctcaa
360
tccaggaaag cagaaaatct tcaagaaaac cctccagtca tcgtaacgcg tgtcctccaa
420
gccctcggaa ctgtggctgt ggctctgggg gctctaggag ctgcctacta catcactgaa
480
tccttgtgaa caagccccta ggcccacagt ctggcagacc tccaccagcc ccaggagttg
540
ataggtgatg gcgctgggag aagatgttca gaatatctca aaagccaagt ccagaagatc
600
cagtttccat caaagggacc tctcttgtca ccaaaattta aaaaagaaa aaaaaacga
660
aaaaa
665
```

```
<210> 5680
<211> 143
<212> PRT
<213> Homo sapiens
```

```
<400> 5680
Val Gly Arg Ile Tyr His Glu Glu Gly Gln Glu Glu Lys Val Arg Gly
1               5                   10                  15
Gln Thr Pro Pro Asp Ser Thr Ser Gln His Ala Gly Ser Asn Ser Thr
            20                  25                  30
Ser Gln Gln Pro Ser Pro Glu Ser Thr Pro Gln Gln Pro Ser Pro Glu
        35                  40                  45
Ser Thr Pro Gln Gln Pro Ser Pro Glu Ser Thr Pro Gln His Ser Ser
    50                  55                  60
Leu Glu Thr Thr Ser Arg Gln Pro Ala Phe Gln Ala Leu Pro Ala Pro
65                  70                  75                  80
Glu Ile Arg Arg Ser Ser Cys Cys Leu Leu Ser Pro Asp Ala Asn Val
                85                  90                  95
Lys Ala Ala Pro Gln Ser Arg Lys Ala Glu Asn Leu Gln Glu Asn Pro
                100                 105                 110
Pro Val Ile Val Thr Arg Val Leu Gln Ala Leu Gly Thr Val Ala Val
            115                 120                 125
Ala Leu Gly Ala Leu Gly Ala Ala Tyr Tyr Ile Thr Glu Ser Leu
    130                 135                 140
```

```
<210> 5681
<211> 1402
<212> DNA
<213> Homo sapiens
```

<400> 5681

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gggcggcctg gcagctggcg gcattgaggc ggaccgtcta gaggtccgtc tgaccgcggc
60
gtcgggacct ggtttccggg catgagctga gagcaccacg ccgaggccac gagtatttca
120
tagacattga tggaagcaga aaccaaaact cttcccctgg agaatgcatc catcctttca
180
gagggctctc tgcaggaagg acaccgatta tggattggca acctggaccc caaaattacc
240
gaataccacc tcctcaagct cctccagaag tttggcaagg taaagcagtt tgacttcctc
300
ttccacaagt caggtgcttt ggagggacag cctcgaggct actgttttgt taactttgaa
360
actaagcagg aagcagagca agccatccag tgtctcaatg gcaagttggc cctgtccaag
420
aagctggtgg tgcgatgggc acatgctcaa gtaaagagat atgatcataa caagaatgat
480
aagattcttc caatcagtct cgagccatcc tcaagcactg agcctactca gtctaaccta
540
agtgtcactg caaagataaa agccattgaa gcaaaactga aaatgatggc ggaaaatcct
600
gatgcagagt atccagcagc gcctgtttat tcctacttta agccaccaga taaaaaaagg
660
actactccat attctagaac agcatggaaa tctcgaagat gatggttgtg aattactgta
720
gcagcaaaag caaattggtc tccacaccta aaatcgtctg cctgtgtact ttgtagatgt
780
gaatggtact attcaacgga gcacaatcac atgttagcat ttggtaacat aatgtttttg
840
gatgttctta tggatgtttc ttccctaaac tatgtatgga attgagcatc atccagaata
900
aatagcgttg tatcccaaat tgtgatttga accctgggat gctctaattg gctggttggt
960
ttggatttgt aactccagaa acattctata gtgtgccaga gcaaaaggca aatacacaaa
1020
atattattta aatcaggaaa ctaaaaatat taacatctat taaaaaattg agcattttttc
1080
tacgctcgtg tgtcttttac aacataaaga aaaagtaaaa ggcagggagg gaagtgagag
1140
acagatttta aatcatgttc agaactgttg ttccagaatt tactacggca atccctccaa
1200
ctggactgaa aaagagaaag ttcttggcaa aaaggagctg attctttgaa caaatgttgt
1260
agtaatctgt ttaagaatta tgcttattgt ttcaaaatcc caactaggaa aacatggtgt
1320
atatcttaaa attgtttgtg ttgacaaaac tagaatcaaa tttaacattt tataccacat
1380
cacaagttct atttgggata tt
1402
```

<210> 5682
<211> 190
<212> PRT

<213> Homo sapiens

<400> 5682
```
Met Glu Ala Glu Thr Lys Thr Leu Pro Leu Glu Asn Ala Ser Ile Leu
 1               5               10                  15
Ser Glu Gly Ser Leu Gln Glu Gly His Arg Leu Trp Ile Gly Asn Leu
            20              25                  30
Asp Pro Lys Ile Thr Glu Tyr His Leu Leu Lys Leu Leu Gln Lys Phe
        35              40                  45
Gly Lys Val Lys Gln Phe Asp Phe Leu Phe His Lys Ser Gly Ala Leu
    50              55                  60
Glu Gly Gln Pro Arg Gly Tyr Cys Phe Val Asn Phe Glu Thr Lys Gln
65              70                  75                  80
Glu Ala Glu Gln Ala Ile Gln Cys Leu Asn Gly Lys Leu Ala Leu Ser
            85                  90                  95
Lys Lys Leu Val Val Arg Trp Ala His Ala Gln Val Lys Arg Tyr Asp
        100                 105                 110
His Asn Lys Asn Asp Lys Ile Leu Pro Ile Ser Leu Glu Pro Ser Ser
        115                 120                 125
Ser Thr Glu Pro Thr Gln Ser Asn Leu Ser Val Thr Ala Lys Ile Lys
        130                 135                 140
Ala Ile Glu Ala Lys Leu Lys Met Met Ala Glu Asn Pro Asp Ala Glu
145                 150                 155                 160
Tyr Pro Ala Ala Pro Val Tyr Ser Tyr Phe Lys Pro Pro Asp Lys Lys
                165                 170                 175
Arg Thr Thr Pro Tyr Ser Arg Thr Ala Trp Lys Ser Arg Arg
                180                 185                 190
```

<210> 5683
<211> 328
<212> DNA
<213> Homo sapiens

<400> 5683
```
ggatccatgc gttgccctag ggaggcctca gctgtcaagc actgaccatc tctgcagaca
60
cgcagggctg acctgtactg gtgagtaagc attagccatg ggacgcacac aatccagcca
120
atgctttcag aaggcaccac atgtgatgca cagcctctat ttacatgtga ataattacac
180
tgctgctttc tggttaaaag tagggaaata cagtgttcca gggcatagga atggtgctct
240
gggtagaaaa gtttattttg ctggtgggag gcaggttttg ttaataaagc tttgaaatac
300
acaaatttca ttctggatgc tgatgctg
328
```

<210> 5684
<211> 103
<212> PRT
<213> Homo sapiens

<400> 5684
```
Met Lys Phe Val Tyr Phe Lys Ala Leu Leu Thr Lys Pro Ala Ser His
```

```
1                   5                   10                  15
Gln Gln Asn Lys Leu Phe Tyr Pro Glu His His Ser Tyr Ala Leu Glu
                20                  25                  30
His Cys Ile Ser Leu Leu Leu Thr Arg Lys Gln Gln Cys Asn Tyr Ser
            35                  40                  45
His Val Asn Arg Gly Cys Ala Ser His Val Val Pro Ser Glu Ser Ile
        50                  55                  60
Gly Trp Ile Val Cys Val Pro Trp Leu Met Leu Thr His Gln Tyr Arg
65                  70                  75                  80
Ser Ala Leu Arg Val Cys Arg Asp Gly Gln Cys Leu Thr Ala Glu Ala
                85                  90                  95
Ser Leu Gly Gln Arg Met Asp
                100
```

```
<210> 5685
<211> 604
<212> DNA
<213> Homo sapiens

<400> 5685
ccatgcagcc gcgtgggtgg caagcgggtg gtgtgctatg acgacagatt cattgtgaag
60
ctggcctacg agtctgacgg gatcgtggtt tccaacgaca cataccgtga cctccaaggc
120
gagcggcagg agtggaagcg cttcatcgag gagcggctgc tcatgtactc cttcgtcaat
180
gacaagtatg ttccctccca gaggccctga cagacttggg gtccacaggg gaagccagag
240
gtgcccttgg caagggtgga gctgggggct gggctctgcg gggccctgtg gccatgggag
300
gttgcgggtc ttggctccag gcagctttga gagtgagacg gatagctcac cacataggag
360
aaatcagacc gggaccaggc aggctgtggg gtggagagag tggctaattt gggagataga
420
gccgtagcac ttatgagggg atgtatgtgg ttgatggttc caggtggcct ctctacgaac
480
caacatggca tctctcgagc agaggccatg ggccagtggg tgcgggctgc catcccccga
540
cgacttcagg gagggagttc ccctaaaggt gcccatgggc tgtggccctc tagaccgggg
600
atcc
604
```

```
<210> 5686
<211> 69
<212> PRT
<213> Homo sapiens

<400> 5686
Pro Cys Ser Arg Val Gly Gly Lys Arg Val Val Cys Tyr Asp Asp Arg
1                   5                   10                  15
Phe Ile Val Lys Leu Ala Tyr Glu Ser Asp Gly Ile Val Val Ser Asn
                20                  25                  30
Asp Thr Tyr Arg Asp Leu Gln Gly Glu Arg Gln Glu Trp Lys Arg Phe
```

```
         35                    40                    45
Ile Glu Glu Arg Leu Leu Met Tyr Ser Phe Val Asn Asp Lys Tyr Val
     50                    55                    60
Pro Ser Gln Arg Pro
65


<210> 5687
<211> 328
<212> DNA
<213> Homo sapiens


<400> 5687
actctctccc gaccgcgtgg tgcgggtaag ggtggtggtg atggtggtgg tggtgagcgc
60
ccccggctct gcatgcacgc ctgcgtgaac accccgggct cttcccgttg cacctgcccc
120
ggtggatccg aaactctggc tgacgggaag agctgtgaga atgtggatga atgtgtgggc
180
ctgcagccgg tgtgccccca ggggaccaca tgcatcaaca ccggtggaag cttccagtgt
240
gtcagccctg agtgccccga gggcagcggc aatgtgagct acgtgaagac gtctccattc
300
cagtgtgagc ggaacccctg ccccatgg
328


<210> 5688
<211> 109
<212> PRT
<213> Homo sapiens


<400> 5688
Thr Leu Ser Arg Pro Arg Gly Ala Gly Lys Gly Gly Gly Asp Gly Gly
1               5                   10                  15
Gly Gly Glu Arg Pro Arg Leu Cys Met His Ala Cys Val Asn Thr Pro
            20                  25                  30
Gly Ser Ser Arg Cys Thr Cys Pro Gly Gly Ser Glu Thr Leu Ala Asp
        35                  40                  45
Gly Lys Ser Cys Glu Asn Val Asp Glu Cys Val Gly Leu Gln Pro Val
    50                  55                  60
Cys Pro Gln Gly Thr Thr Cys Ile Asn Thr Gly Gly Ser Phe Gln Cys
65                  70                  75                  80
Val Ser Pro Glu Cys Pro Glu Gly Ser Gly Asn Val Ser Tyr Val Lys
                85                  90                  95
Thr Ser Pro Phe Gln Cys Glu Arg Asn Pro Cys Pro Met
            100                 105


<210> 5689
<211> 1897
<212> DNA
<213> Homo sapiens


<400> 5689
nagtactaca aaatgtctgg cacatgacag atgctcatga taaaatgttt gacagttgaa
60
```

```
tgaacaatca gaatcataga agagtgtgag cactggtcct ttgtcttcca ggtgggacag
120
tgtgtggtgg tcttcagcca ggctcctagt gggagagccc cactcagccc cagtttgaac
180
tctcgcccat cacctatcag tgccactncc tccagctctc gttcctgaaa cccgagagta
240
ccgctctcag tctccagtaa gaagcatgga tgaagctcct tgtgttaacg gccgctgggg
300
aacactgaga cccagggctc aaaggcagac tcctcaggtt cccgggaagg gagcctttcc
360
ccagccagag gagacggctc tcctatcctc aatggtggga gtttgtctcc aggaacggca
420
gctgtgggtg gctcttcttt ggacagtcct gtacaggcca tatctccaag tactccatct
480
gctgctgaag gatacgacct gaaaatagga ctttctttgg ccccccgacg aggatcaacc
540
agatcagaaa gatctgagat taggatccat agatctgaat tgggatctaa acccgcttcc
600
agtagtaatc ccatggatgg catggacaat aggacagttg ggggaagtat gagacaccct
660
cctgaacaga caaatggtgt gcatacccca cctcacgtgg ccagtgccct tgcaggggcc
720
gtctccccag gtgccctgcg tcggagtctg gaagccatca aagcgatgtc ctccaaaggc
780
ccctcggcct ctgcagcact aagtcctcct cttgggtctt ctccaggctc tcctgggagc
840
cagagtttga gcagtggaga aacagtgccc atccctcgcc cagggcctgc ccaaggagat
900
ggacattcct tacctcccat tgctcgccgc ctgggccacc accctccaca gtccctaaat
960
gttggcaaac ccctatacca gagtatgaac tgcaagccca tgcagatgta cgtgctggac
1020
attaaagaca ccaaggagaa ggggcgggtc aaatggaaag tatttaatag cagttctgtg
1080
gttggacctc ctgaaaccag cctgcatacc gtggtacaag gcaggggtga actcatcata
1140
tttggaggac tcatggacaa gaaacagaat gtgaagtact atccaaaaac aaacgccttg
1200
tactttgtac gagcaaagag ataatgtgtt ctaaacccct ttccttttct gtggctttta
1260
atttggaatt ttccagtgtg taagcatttg gactgagaat tgggaaaaca aaattactcc
1320
cagaagccaa aactctttaa ttcccaaccg aagtcactcc aggctgggat caaatctcca
1380
ttaagaaaaa aaattatata taaatatata tatatatatt atatagccaa ctctgttgac
1440
aaaaaaaggg agagatttcc atcctggttc agataaagtt gttgctgtgt tttaacaggg
1500
gctgggctgc cttttttctac cttgctggta actagaccaa gaagttagag aatagactaa
1560
catcagtaac ttcccaaaag aaactgaaga gccccctgta aatctttatg tggccttctt
1620
ggagttaaaa aatgaaaggg catatgtaag ttgcaaaggt ggagggtttt agactctcat
1680
```

```
gcttcaggtg ctgtcggggt aaaagtaact gttttttcccc ttctcttaaa accacagagg
1740
acctgtgaca gctctgcaga aatgccagtg cctggccccc tcttgccttt tatggctgag
1800
gaaagttacc caacaaagga ttttattcca catttgtgtg ccgggtcatt gtgaaataat
1860
gtttatgcag ccaacatctg aaaaaaaaaa aaaaaaa
1897


<210> 5690
<211> 54
<212> PRT
<213> Homo sapiens

<400> 5690
Thr Ile Arg Ile Ile Glu Glu Cys Glu His Trp Ser Phe Val Phe Gln
1               5                   10                  15
Val Gly Gln Cys Val Val Val Phe Ser Gln Ala Pro Ser Gly Arg Ala
            20                  25                  30
Pro Leu Ser Pro Ser Leu Asn Ser Arg Pro Ser Pro Ile Ser Ala Thr
        35                  40                  45
Xaa Ser Ser Ser Arg Ser
    50


<210> 5691
<211> 1227
<212> DNA
<213> Homo sapiens

<400> 5691
aagcggaaaa acaattgcca tggcaaccac attgagatgc aggccatggc agagatgtac
60
aaccgtcctg tggaggtgta ccagtacagc acagaaccca tcaacacatt ccatgggata
120
catcaaaacg aggacgaacc cattcgtgtt agctaccatc ggaatatcca ctataattca
180
gtggtgaatc ctaacaaggc caccattggt gtggggctgg gctgccatca ttcaaaccag
240
ggtttgcaga gcagtctctg atgaagaatg ccataaaaac atcggaggag tcatggattg
300
aacagcagat gctagaagac aagaaacggg ccacagactg ggaggccaca aatgaagcca
360
tcgaggagca ggtggctcgg gaatcctacc tgcagtggtt gcgggatcag gagaaacagg
420
ctcgccaggt ccgaggcccc agccagcccc ggaaagccag cgccacatgc agttcggcca
480
cagcagcagc ctccagtggc ctggaggagt ggactagccg gtccccgcgg cagcggagtt
540
cagcctcgtc acctgagcac cctgagctgc atgctgaatt gggcatgaag ccccccttccc
600
caggcactgt tttagctctt gccaaacctc cttcgccctg tgcgccaggt acaagcagtc
660
agttctcggc aggggccgac cgggcaactt cccccccttgt gtccctctac cctgctttgg
720
```

```
agtgccgggc cctcattcag cagatgtccc cctctgcctt tggtctgaat gactgggatg
780
atgatgagat cctagcttcg gtgctggcag tgtcccaaca ggaatatacta gacagtatga
840
agaaaaacaa agtgcacaga gacccgcccc cagacaagag ttgatggaga cccagggatt
900
ggacaccatc tcccaacccc agggattcgg gcaagggtgc cgaagataga caagaggcac
960
acagagacag accaactggc agccaggcag ccccagagga gagagacatt cagacagagg
1020
aaagtctccc tgcccctcat tccttccaag atgagaaaaa cttgccgcca cccccgaca
1080
ctgatgccag ggaggtggga ggaagaagtg ggaaatttcc cttcccagta cccccaagaa
1140
cgtctgagcc ttcaatgttg aatttttct ttattaaaat tactttatc ttataaaatc
1200
aactaatcaa aaatgaaaaa aaaaaaa
1227


<210> 5692
<211> 86
<212> PRT
<213> Homo sapiens


<400> 5692
Lys Arg Lys Asn Asn Cys His Gly Asn His Ile Glu Met Gln Ala Met
1               5                   10                  15
Ala Glu Met Tyr Asn Arg Pro Val Glu Val Tyr Gln Tyr Ser Thr Glu
                20                  25                  30
Pro Ile Asn Thr Phe His Gly Ile His Gln Asn Glu Asp Glu Pro Ile
            35                  40                  45
Arg Val Ser Tyr His Arg Asn Ile His Tyr Asn Ser Val Val Asn Pro
        50                  55                  60
Asn Lys Ala Thr Ile Gly Val Gly Leu Gly Cys His His Ser Asn Gln
65                  70                  75                  80
Gly Leu Gln Ser Ser Leu
                85


<210> 5693
<211> 389
<212> DNA
<213> Homo sapiens


<400> 5693
nacgcgtgtg ggatacccct tcgcggggac agccaggcag aaagacgctg ctcctcctcg
60
gacactgggg cacctctgcg cctgtcccaa ggccacgctg gctctcttca ggcccatggc
120
tccaaccccg cagggcccct cgtcgggcgg tcccaactta gtcgtcccct gacgcggcct
180
ctgggccctc ccgggttggg gagctgacgg cagcttcccc ccacaggtgc ctctgagcct
240
cggaacatga tctacatgag ccgcttgggt atctggggcg agggcacacc cttccggaac
300
```

tttgaggagt tcctgcacgc catcgagaag aggggcgttg gcgccatgga gatcgtggcc
360
atggacatga aggtcagcgg gcatgtaca
389

<210> 5694
<211> 60
<212> PRT
<213> Homo sapiens

<400> 5694
Arg Gln Leu Pro Pro Thr Gly Ala Ser Glu Pro Arg Asn Met Ile Tyr
 1   5   10   15
Met Ser Arg Leu Gly Ile Trp Gly Glu Gly Thr Pro Phe Arg Asn Phe
            20   25   30
Glu Glu Phe Leu His Ala Ile Glu Lys Arg Gly Val Gly Ala Met Glu
        35   40   45
Ile Val Ala Met Asp Met Lys Val Ser Gly His Val
    50   55   60

<210> 5695
<211> 1417
<212> DNA
<213> Homo sapiens

<400> 5695
gtggccctcc accggtcatt gaagcctcaa ggtcaggtgg gtgagcagga ggaggctggt
60
gccttgcggc aagccctaac cttttccctg ttggagcagc ccccgttgga ggcagaagag
120
cccccagata gggggactga tggcaaggcc cagctggtgg tgcactcggc ctttgagcag
180
gatgtggagg agctggaccg ggcgctcagg gctgccttgg aggtccacgt ccaggaggag
240
acggtggggc cctggcgccg cacactgcct gcagagctgc gtgctcgcct ggagcggtgc
300
catggtgtga gtgttgccct gcgtggtgac tgcaccatcc tccgtggctt cggggcccac
360
cctgcccgtg ctgcccgcca cttggtggca cttctggctg gcccctggga tcagagtttg
420
gcctttccct tggcagcttc aggccctacc ttggcggggc agacgctgaa ggggcccctgg
480
aacaacctgg agcgtctggc agagaacacc ggggagttcc aggaggtggt gcgggccttc
540
tacgacaccc tggacgctgc ccgcagcagc atccgcgtcg ttcgtgtgga gcgcgtgtcg
600
cacccgctgc tgcagcagca gtatgagctg taccgggagc gcctgctgca gcgatgcgag
660
cggcgcccgg tggagcaggt gctgtaccac ggcacgacgg caccggcagt gcctgacatc
720
tgcgcccacg gcttcaaccg cagcttctgc ggccgcaacg ccacggtcta cgggaagggc
780
gtgtatttcg ccaggcgcgc ctccctgtcg gtgcaggacc gctactcgcc ccccaacgcc
840

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gatggccata aggcggtgtt cgtggcacgg gtgctgactg gcgactacgg gcagggccgc
900
cgcggtctgc gggcgccccc tctgcggggt cctggccacg tgctcctgcg ctacgacagc
960
gccgtggact gcatctgcca gcccagcatc ttcgtcatct tccacgacac ccaggcgctg
1020
cccacccacc tcatcacctg cgagcacgtg ccccgcgctt cccccgacga cccctctggg
1080
ctcccgggcc gctccccaga cacttaaccg aaggggccac cctctggcct cctgcttccc
1140
aggctcccag ctccgcacag gctgatgctc cccgccccca actgtggccg cctgagctgt
1200
ccccggggac gcccctgcat ccctctgcgg gctccagaag gcggtgtggg ggatggcggt
1260
cagcagcggc cgagggggggc cgggctaggt cccagcctgg ccgaccccca ccaccagggg
1320
tcagcagagc ccaggagcga caccgcccgc ccgccgctcc cagacctcgc ccgagtcggc
1380
tctgttgttt gaataaacgt gaacgtgaac ccagaaa
1417


<210> 5696
<211> 368
<212> PRT
<213> Homo sapiens

<400> 5696
Val Ala Leu His Arg Ser Leu Lys Pro Gln Gly Gln Val Gly Glu Gln
1               5                   10                  15
Glu Glu Ala Gly Ala Leu Arg Gln Ala Leu Thr Phe Ser Leu Leu Glu
            20                  25                  30
Gln Pro Pro Leu Glu Ala Glu Glu Pro Pro Asp Arg Gly Thr Asp Gly
        35                  40                  45
Lys Ala Gln Leu Val Val His Ser Ala Phe Glu Gln Asp Val Glu Glu
    50                  55                  60
Leu Asp Arg Ala Leu Arg Ala Ala Leu Glu Val His Val Gln Glu Glu
65                  70                  75                  80
Thr Val Gly Pro Trp Arg Arg Thr Leu Pro Ala Glu Leu Arg Ala Arg
                85                  90                  95
Leu Glu Arg Cys His Gly Val Ser Val Ala Leu Arg Gly Asp Cys Thr
            100                 105                 110
Ile Leu Arg Gly Phe Gly Ala His Pro Ala Arg Ala Ala Arg His Leu
        115                 120                 125
Val Ala Leu Leu Ala Gly Pro Trp Asp Gln Ser Leu Ala Phe Pro Leu
    130                 135                 140
Ala Ala Ser Gly Pro Thr Leu Ala Gly Gln Thr Leu Lys Gly Pro Trp
145                 150                 155                 160
Asn Asn Leu Glu Arg Leu Ala Glu Asn Thr Gly Glu Phe Gln Glu Val
                165                 170                 175
Val Arg Ala Phe Tyr Asp Thr Leu Asp Ala Ala Arg Ser Ser Ile Arg
            180                 185                 190
Val Val Arg Val Glu Arg Val Ser His Pro Leu Leu Gln Gln Gln Tyr
        195                 200                 205
Glu Leu Tyr Arg Glu Arg Leu Leu Gln Arg Cys Glu Arg Arg Pro Val
```

4857

```
     210                    215                    220
Glu Gln Val Leu Tyr His Gly Thr Thr Ala Pro Ala Val Pro Asp Ile
225                    230                    235                    240
Cys Ala His Gly Phe Asn Arg Ser Phe Cys Gly Arg Asn Ala Thr Val
               245                    250                    255
Tyr Gly Lys Gly Val Tyr Phe Ala Arg Arg Ala Ser Leu Ser Val Gln
           260                    265                    270
Asp Arg Tyr Ser Pro Pro Asn Ala Asp Gly His Lys Ala Val Phe Val
           275                    280                    285
Ala Arg Val Leu Thr Gly Asp Tyr Gly Gln Gly Arg Arg Gly Leu Arg
       290                    295                    300
Ala Pro Pro Leu Arg Gly Pro Gly His Val Leu Leu Arg Tyr Asp Ser
305                    310                    315                    320
Ala Val Asp Cys Ile Cys Gln Pro Ser Ile Phe Val Ile Phe His Asp
               325                    330                    335
Thr Gln Ala Leu Pro Thr His Leu Ile Thr Cys Glu His Val Pro Arg
           340                    345                    350
Ala Ser Pro Asp Asp Pro Ser Gly Leu Pro Gly Arg Ser Pro Asp Thr
           355                    360                    365
```

<210> 5697
<211> 3362
<212> DNA
<213> Homo sapiens

<400> 5697

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120
tgggtcccaa aacctccgtg cctgaggaaa ggagcacgtt ttcctatgtg tgcaaaggtg
180
ccatgtgcgc ttgcaggttt gaaatgaggc gagtcttctt caagaagtca ggagagggggg
240
agtcttccaa tgaattcatc tttccttccc cccaaccatt cccctcttgg cttttctaga
300
atgttcgtgg catcagagag aaagatgaga gctcaccagg tgctcacctt cctcctgctc
360
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420
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480
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540
ctgcccttca tcaaggagaa ggagaagaag agccctgtgg cctccactt tctgttcctc
600
ctggggaccc tgggcctctt tgggctgacg tttgccttca tcatccagga ggacgagacc
660
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720
ctgagccagg catggcgcgt gcggaggctg gtgcggcatg cacgggcccc cgcgggctgg
780
cagctggtgg gcctggcgct gtgcctgatg ctggtgcaag tcatcatcgc tgtggagtgg
840
```

```
ctggtgctca ccgtgctgcg tgacacaagg ccagcctgcg cctacgagcc catggacttt
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gtgatggccc tcatctacga catggtactg cttgtggtca ccctgggggct ggccctcttc
960
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1020
ttcctctctg tgctcatctg ggtggcctgg atgaccatgt acctcttcgg caatgtcaag
1080
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1140
tgggtcttcg tcatcttcca cgccatccct gagatccact gcacccttct gccagccctg
1200
caggagaaca cgcccaacta cttcgacacg tcgcagccca ggatgcggga cacggccttc
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1320
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1380
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1560
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1620
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1680aacaccgact gccgcccct cccctgccac acacacagac acgtaatacc        1740
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1800
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2220
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2280
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2340
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2400
ccagctgaaa gcccctccgg gaggcaggtt ggaaggcagg caccacggca ggttttccgc
2460
gatgatgtca cctagcaggg cttcaggggt tcccactagg atgcagagat gacctctcgc
2520
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```
tgcctcacaa gcagtgacac ctcgggtcct ttccgttgct atggtgaaaa ttcctggatg
2580
gaatggatca catgagggtt tcttgttgct tttggagggt gtggggggata ttttgttttg
2640
gtttttctgc aggttccatg aaaacagccc ttttccaagc ccattgtttc tgtcatggtt
2700
tccatctgtc ctgagcaagt cattcctttg ttatttagca tttcgaacat ctcggccatt
2760
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2820
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2880
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2940
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3000
tgagctgagt atgtttcaat aaaccttttg atatttctca aggccctagt ctctgctgtc
3060
tcccctcccc accccatcct tgcaaagcac tggggaaagt aaggccaatc tggccctccc
3120
tgtgtgaccc gccttcgagt tttccttaac agttagtaca tttccttgtg ttaccacgca
3180
cggggaagaa aacgcatggc cccagaatgc cacccccacc tgacctcccc ggaagcaccc
3240
cgcctctgcc cagagcatgt gcttgcttct agagaatccc gttccagtca ttgcgtggac
3300
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3360
gt
3362
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```
<210> 5698
<211> 403
<212> PRT
<213> Homo sapiens
```

```
<400> 5698
Met Phe Val Ala Ser Glu Arg Lys Met Arg Ala His Gln Val Leu Thr
1               5                   10                  15
Phe Leu Leu Leu Phe Val Ile Thr Ser Val Ala Ser Glu Asn Ala Ser
            20                  25                  30
Thr Ser Arg Gly Cys Gly Leu Asp Leu Leu Pro Gln Tyr Val Ser Leu
        35                  40                  45
Cys Asp Leu Asp Ala Ile Trp Gly Ile Val Val Glu Ala Val Ala Gly
    50                  55                  60
Ala Gly Ala Leu Ile Thr Leu Leu Leu Met Leu Ile Leu Leu Val Arg
65                  70                  75                  80
Leu Pro Phe Ile Lys Glu Lys Glu Lys Lys Ser Pro Val Gly Leu His
                85                  90                  95
Phe Leu Phe Leu Leu Gly Thr Leu Gly Leu Phe Gly Leu Thr Phe Ala
            100                 105                 110
Phe Ile Ile Gln Glu Asp Glu Thr Ile Cys Ser Val Arg Arg Phe Leu
        115                 120                 125
Trp Gly Val Leu Phe Ala Leu Cys Phe Ser Cys Leu Leu Ser Gln Ala
```

4860

```
          130                     135                     140
Trp Arg Val Arg Arg Leu Val Arg His Gly Thr Gly Pro Ala Gly Trp
145                     150                     155                     160
Gln Leu Val Gly Leu Ala Leu Cys Leu Met Leu Val Gln Val Ile Ile
                165                     170                     175
Ala Val Glu Trp Leu Val Leu Thr Val Leu Arg Asp Thr Arg Pro Ala
                180                     185                     190
Cys Ala Tyr Glu Pro Met Asp Phe Val Met Ala Leu Ile Tyr Asp Met
                195                     200                     205
Val Leu Leu Val Val Thr Leu Gly Leu Ala Leu Phe Thr Leu Cys Gly
                210                     215                     220
Lys Phe Lys Arg Trp Lys Leu Asn Gly Ala Phe Leu Leu Ile Thr Ala
225                     230                     235                     240
Phe Leu Ser Val Leu Ile Trp Val Ala Trp Met Thr Met Tyr Leu Phe
                245                     250                     255
Gly Asn Val Lys Leu Gln Gln Gly Asp Ala Trp Asn Asp Pro Thr Leu
                260                     265                     270
Ala Ile Thr Leu Ala Ala Ser Gly Trp Val Phe Val Ile Phe His Ala
                275                     280                     285
Ile Pro Glu Ile His Cys Thr Leu Leu Pro Ala Leu Gln Glu Asn Thr
                290                     295                     300
Pro Asn Tyr Phe Asp Thr Ser Gln Pro Arg Met Arg Glu Thr Ala Phe
305                     310                     315                     320
Glu Glu Asp Val Gln Leu Pro Arg Ala Tyr Met Glu Asn Lys Ala Phe
                325                     330                     335
Ser Met Asp Glu His Asn Ala Ala Leu Arg Thr Ala Gly Phe Pro Asn
                340                     345                     350
Gly Ser Leu Gly Lys Arg Pro Ser Gly Ser Leu Gly Lys Arg Pro Ser
                355                     360                     365
Ala Pro Phe Arg Ser Asn Val Tyr Gln Pro Thr Glu Met Ala Val Val
                370                     375                     380
Leu Asn Gly Gly Thr Ile Pro Thr Ala Pro Pro Ser His Thr Gly Arg
385                     390                     395                     400
His Leu Trp
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```
<210> 5699
<211> 1565
<212> DNA
<213> Homo sapiens

<400> 5699
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atcaaatatt ttattttcat taaaaaaaaa ccttgaataa taggaatcat tttacacatt
120
aatggttgct ctttaaaagt tagaatctca agagatacca aaagcactta agagttacca
180
ccacattttg cccaagttct aaggaaagtt ctgaaactta gtggtggtgt gtttgtactc
240
agcaagctcc agacagtctg agttgctcat tccatgaaca gaagcttgaa aatgccctta
300
cagttgagat ataaacgagg gaagaggtga agctttcagg aagccagaga gcccctgccg
360
```

```
gtcaggtttc ctgaggaagg caggggtgct ctatgctcat cagtcattca agcttctcag
420
gaaatgtgcc catcatggga acagcagcta tcttccaagc ttaaaaatta tgaatcccag
480
gaagttaaag cccaaccagc caaccacctt cacatccttc tcatactagt agagtcattc
540
aaaacagcaa gtggtgcttc tgaggcagcc tcaggaaggt ctttgggtgg ctattctaga
600
ggtgaacata ctggaaaggt ttttacctaa agcattttca gttgaaatga aaaaagaagg
660
aaagctccaa aagtcagttt caaattcttt cagtgctgct cccagagaag tccgtgtgca
720
aaggtgtgat gttctggtca taagcggcat actcagaggt gccggtactg ccagcttga
780
gctgctgggc agcatgggtc agctggaatg cagcatcagg gtgggctgtc tcaggcagca
840
gtgtgcattc cctttccagc atgtcagcca cccctttcag caggtccagg aaaccaaagg
900
ctagagcggc ctttcgcaaa cggttcagct ccttatagaa tgtctgtgtt ttttcaggta
960
gtttccttgc atttcttaaa atcttctgta catctgtctg caggccgctg ggtttgatcc
1020
agacagtcac attctgggca taactgcgtt tgtttttggg ctgtaggggg aatggactct
1080
tattgtcatc ctcgccataa gggttttctt tagcatctga aataggaccc aactgtgcca
1140
ttttccctag ccatgggaga ggttctgggc caggctcaaa gagagacatc atgaggtttg
1200
atttcttctt gctgtcagct tgggagtaga gcattccatg ccattcagga cctaattgaa
1260
caatcgctac cattccttcc acttttaggc taccatggag caggacacaa aagttgggta
1320
ttttgcctgc aatctgattg gctgaattct catcttcatt gtcatcagtg atgccagcac
1380
ccacctcatc accttctttg ttaagtgcta tgggcaagac cagatgcctg gacagaactg
1440
ggggacttga aatatcagct atatcaataa atcccactat ttccaaatct gtgttaatga
1500
ctttagggat aggatcaatt tcttcatcta caacaaaagg ttctggcctg gggaagactt
1560
gtacc
1565


<210> 5700
<211> 197
<212> PRT
<213> Homo sapiens


<400> 5700
Met Val Ala Ile Val Gln Leu Gly Pro Glu Trp His Gly Met Leu Tyr
1               5                   10                  15
Ser Gln Ala Asp Ser Lys Lys Lys Ser Asn Leu Met Met Ser Leu Phe
            20                  25                  30
Glu Pro Gly Pro Glu Pro Leu Pro Trp Leu Gly Lys Met Ala Gln Leu
```

```
          35                    40                    45
Gly Pro Ile Ser Asp Ala Lys Glu Asn Pro Tyr Gly Glu Asp Asp Asn
      50                    55                    60
Lys Ser Pro Phe Pro Leu Gln Pro Lys Asn Lys Arg Ser Tyr Ala Gln
65                    70                    75                    80
Asn Val Thr Val Trp Ile Lys Pro Ser Gly Leu Gln Thr Asp Val Gln
                  85                    90                    95
Lys Ile Leu Arg Asn Ala Arg Lys Leu Pro Glu Lys Thr Gln Thr Phe
              100                   105                   110
Tyr Lys Glu Leu Asn Arg Leu Arg Lys Ala Ala Leu Ala Phe Gly Phe
          115                   120                   125
Leu Asp Leu Leu Lys Gly Val Ala Asp Met Leu Glu Arg Glu Cys Thr
      130                   135                   140
Leu Leu Pro Glu Thr Ala His Pro Asp Ala Ala Phe Gln Leu Thr His
145                   150                   155                   160
Ala Ala Gln Gln Leu Lys Leu Ala Ser Thr Gly Thr Ser Glu Tyr Ala
                  165                   170                   175
Ala Tyr Asp Gln Asn Ile Thr Pro Leu His Thr Asp Phe Ser Gly Ser
              180                   185                   190
Ser Thr Glu Arg Ile
          195


<210> 5701
<211> 1885
<212> DNA
<213> Homo sapiens


<400> 5701
gccttgcaca tggagatgct tagctgaggg ggtggctttg ttagactatt tgcaggtcgt
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gagatagagc ctgagatggg ggactgggcc cctgcctggg ggattgggtc gtgacctgtg
120
tggagcccca cactgagctg cagtgggtgg ggagggtggt ttacaggggt gctctgtgca
180
gcccctctga ttttcccctg ggagtcccag gtccagggga aggaggacag tggcccaggc
240
cacacagctc actgggcggc tctcactccc ccagggctgg ctgctggcgg gatggacacc
300
ctggaggagg tgacttgggc caatgggagc acagcgctac ccccaccccct ggcaccaaac
360
atcagtgtgc ctcatcgctg cctgctgctg ctctacgaag acattggcac ctccagggtc
420
cggtactggg acctcttgct gctcatcccc aatgtgctct tcctcatctt cctgctctgg
480
aagcttccat ctgctcgggc gaagatccgc atcacctcca gccccatttt tatcaccttc
540
tacatcctgg tgtttgtggt ggcgctggtg ggcattgccc gggccgtggt atccatgacg
600
gtgagcacct cgaacgctgc aactgttgct gataagatcc tgtgggagat cacccgcttc
660
ttcctgctgg ccatcgagct gagtgtgatc atcctgggcc tggcctttgg ccacctggag
720
agtaagtcca gcatcaagcg ggtgctggcc atcaccacag tgctgtccct ggcctactct
780
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gtcacccagg ggaccctgga gatcctgtac cctgatgccc atctctcagc tgaggacttt
840
aatatctatg gccatggggg ccgccagttc tggctggtca gctcctgctt cttcttcctg
900
gtctactctc tggtggtcat ccttcccaag accccgctga aggagcgcat ctccctgcct
960
tctcggagga gcttctacgt gtatgcgggc atcctggcac tgctcaacct actgcagggg
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1080
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1320
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1380
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1440
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1560
ctccctgggg ctcccaatcc cctttgccat ctctgctctc actggggacc ctcctcccct
1620
tcccacctgc tctcatactg ctcagtgaca tggcccaggc tttccttcca gggccatgct
1680
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1740
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1800
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1860
gcagaaaaaa aaaaaaaaag ttttg
1885

<210> 5702
<211> 348
<212> PRT
<213> Homo sapiens

<400> 5702
Met Asp Thr Leu Glu Glu Val Thr Trp Ala Asn Gly Ser Thr Ala Leu
1   5   10   15
Pro Pro Pro Leu Ala Pro Asn Ile Ser Val Pro His Arg Cys Leu Leu
                20   25   30
Leu Leu Tyr Glu Asp Ile Gly Thr Ser Arg Val Arg Tyr Trp Asp Leu
            35   40   45
Leu Leu Leu Ile Pro Asn Val Leu Phe Leu Ile Phe Leu Leu Trp Lys
        50   55   60
Leu Pro Ser Ala Arg Ala Lys Ile Arg Ile Thr Ser Ser Pro Ile Phe

```
65                      70                      75                      80
Ile Thr Phe Tyr Ile Leu Val Phe Val Val Ala Leu Val Gly Ile Ala
                    85              90                      95
Arg Ala Val Val Ser Met Thr Val Ser Thr Ser Asn Ala Ala Thr Val
            100             105                     110
Ala Asp Lys Ile Leu Trp Glu Ile Thr Arg Phe Phe Leu Leu Ala Ile
        115             120                     125
Glu Leu Ser Val Ile Ile Leu Gly Leu Ala Phe Gly His Leu Glu Ser
    130              ·      135                     140
Lys Ser Ser Ile Lys Arg Val Leu Ala Ile Thr Thr Val Leu Ser Leu
145             150                     155                     160
Ala Tyr Ser Val Thr Gln Gly Thr Leu Glu Ile Leu Tyr Pro Asp Ala
                165                     170                     175
His Leu Ser Ala Glu Asp Phe Asn Ile Tyr Gly His Gly Gly Arg Gln
                180                     185                     190
Phe Trp Leu Val Ser Ser Cys Phe Phe Phe Leu Val Tyr Ser Leu Val
        195                     200                     205
Val Ile Leu Pro Lys Thr Pro Leu Lys Glu Arg Ile Ser Leu Pro Ser
    210                     215                     220
Arg Arg Ser Phe Tyr Val Tyr Ala Gly Ile Leu Ala Leu Leu Asn Leu
225                     230                     235                     240
Leu Gln Gly Leu Gly Ser Val Leu Leu Cys Phe Asp Ile Ile Glu Gly
                245                     250                     255
Leu Cys Cys Val Asp Ala Thr Thr Phe Leu Tyr Phe Ser Phe Phe Ala
                260                     265                     270
Pro Leu Ile Tyr Val Ala Phe Leu Arg Gly Phe Phe Gly Ser Glu Pro
            275                     280                     285
Lys Ile Leu Phe Xaa Leu Gln Met Pro Ser Gly Arg Asp Arg Gly Ala
            290                     295                     300
Arg Cys Thr Pro Thr Pro Ala Leu Arg Cys Gly Pro Ala Gly Gly Pro
305                     310                     315                     320
Gly Gly Cys Arg Gly Cys Trp Gly Leu Ser Cys Gln Leu Leu Glu His
                325                     330                     335
Ala Val Arg Leu Cys Arg Arg Gly Gly Leu Pro Gly
                340                     345
```

<210> 5703
<211> 1496
<212> DNA
<213> Homo sapiens

<400> 5703
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atgcacacac acacgcagac ctactatgaa ctggcttgtg ctcagcaaga gcagaattga
120
tgagcagata ccttaagaat cttttagagc aggaccacgt acaagggcaa atcctccttc
180
cagacctact cggactacct gcgctgggag agcttcctcc agcagcagct gcaggccttg
240
cccgagggct cagtcctgcg ccggggcttc agacctgcg agcactggaa gcagatattc
300
atggaaatcg tagggggtgca gagcgccctg tgcggcctgg tgctatccct gctcatctgc
360

```
gtggccgcgg tggccgtgtt caccacccac atcctgctcc tgctgcccgt gctcctcagc
420
atcttgggca tcgtgtgcct ggtggtgacc atcatgtact ggagcggctg ggagatgggg
480
gctgtggaag ccatctccct gtccatcctc gttggctcct ccgtggatta ctgcgtccac
540
ctggtcgagg gctacctgct ggctggagag aacctgcccc cccaccaggc cgaggacgcc
600
cgaacgcagc gccagtggcg tacgctggag gccgtgcggc acgtgggcgt ggccatcgtc
660
tccagtgccc tcaccacggt catcgccaca gtgcccctct tcttctgcat catcgcccca
720
tttgccaagt tcggcaagat tgtggcactc aacacgggcg tgtccatcct ctacacgctg
780
accgtcagca ccgccctgct gggcatcatg gcgcccagct ctttcactcg gacccggact
840
tccttcctca aggccctggg tgccgtgctg ctggcagggg ccctggggct gggtgcctgc
900
ctcgtgctcc tgcagagcgg ctataagatt cccctgcccg caggggcctc cctatagccc
960
gggacgggct ctggacactt gcacctttgg tcccatgggt gggggacagg agctgcttcc
1020
cagctcgact tcagctagct gtgtccccag gcctgggccc agggcgccct gcgggccagc
1080
gtggaggctg acacccacac agatggtgtg gaccatgctg ccttgtggag ctgggagttg
1140
gagacagccg ccaccccaca ggccgggcta ctggcagcca cactcggctt tttgcccagt
1200
ggcagaagag accagccctc ctcccatgcc cggtcaccat gggggtcagg ttatttttgt
1260
aggggggtctc cctctcacac tgcctcagtg ctcacaacct tccagtgtgg atgttacagg
1320
gtggccccca ttctaccgat gtgaaaactg aggcgccagg acacagtggc tgccctgtcg
1380
ctggatcagt agcagagcca gagctgcctc cgagcgccat gccgccctcg ggaatcatac
1440
aggaagagca cagtggatcc agggtggggg cctctcaccc cctaaccccg cccccc
1496
```

```
<210> 5704
<211> 269
<212> PRT
<213> Homo sapiens
```

```
<400> 5704
Ser Arg Thr Thr Tyr Lys Gly Lys Ser Ser Phe Gln Thr Tyr Ser Asp
1               5                   10                  15
Tyr Leu Arg Trp Glu Ser Phe Leu Gln Gln Gln Leu Gln Ala Leu Pro
                20                  25                  30
Glu Gly Ser Val Leu Arg Arg Gly Phe Gln Thr Cys Glu His Trp Lys
            35                  40                  45
Gln Ile Phe Met Glu Ile Val Gly Val Gln Ser Ala Leu Cys Gly Leu
        50                  55                  60
Val Leu Ser Leu Leu Ile Cys Val Ala Ala Val Ala Val Phe Thr Thr
```

```
65                    70                    75                    80
His Ile Leu Leu Leu Leu Pro Val Leu Leu Ser Ile Leu Gly Ile Val
                85                        90                    95
Cys Leu Val Val Thr Ile Met Tyr Trp Ser Gly Trp Glu Met Gly Ala
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Cys Val His Leu Val Glu Gly Tyr Leu Leu Ala Gly Glu Asn Leu Pro
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Pro His Gln Ala Glu Asp Ala Arg Thr Gln Arg Gln Trp Arg Thr Leu
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Glu Ala Val Arg His Val Gly Val Ala Ile Val Ser Ser Ala Leu Thr
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Thr Val Ile Ala Thr Val Pro Leu Phe Phe Cys Ile Ile Ala Pro Phe
                180                       185                   190
Ala Lys Phe Gly Lys Ile Val Ala Leu Asn Thr Gly Val Ser Ile Leu
            195                       200                   205
Tyr Thr Leu Thr Val Ser Thr Ala Leu Leu Gly Ile Met Ala Pro Ser
    210                       215                   220
Ser Phe Thr Arg Thr Arg Thr Ser Phe Leu Lys Ala Leu Gly Ala Val
225                       230                   235                   240
Leu Leu Ala Gly Ala Leu Gly Leu Gly Ala Cys Leu Val Leu Leu Gln
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         35   40   45
His Thr Asn Arg Thr Thr Ser Trp Ile Asp Pro Arg Asp Arg Tyr Thr
     50   55   60
Lys Pro Leu Thr Phe Ala Asp Cys Ile Ser Asp Glu Leu Pro Leu Gly
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Trp Glu Glu Ala Tyr Asp Pro Gln Val Gly Asp Tyr Phe Ile Asp His
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Asn Thr Lys Thr Thr Gln Ile Glu Asp Pro Arg Val Gln Trp Arg Arg
            100   105   110
Glu Gln Glu His Met Leu Lys Asp Tyr Leu Val Val Ala Gln Glu Ala
        115   120   125
Leu Ser Ala Gln Lys Glu Ile Tyr Gln Val Lys Gln Gln Arg Leu Glu
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Leu Ala Gln Gln Glu Tyr Gln Gln Leu His Ala Val Trp Glu His Lys
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Leu Gly Ser Gln Val Ser Leu Val Ser Gly Ser Ser Ser Ser Ser Lys
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            35                  40                  45
Leu Gln Leu Met Asp Val Arg Gln Asn Cys Cys Asp Phe Leu Gln Ser
         50                  55                  60
Gln Leu His Pro Thr Asn Cys Leu Gly Ile Arg Ala Phe Ala Asp Val
65                  70                  75                  80
His Thr Cys Thr Asp Leu Leu Gln Gln Ala Asn Ala Tyr Ala Glu Gln
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His Phe Pro Glu Val Met Leu Gly Glu Glu Phe Leu Ser Leu Ser Leu
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Asp Gln Val Cys Ser Leu Ile Ser Ser Asp Lys Leu Thr Val Ser Ser
            115                 120                 125
Glu Glu Lys Val Phe Glu Ala Val Ile Ser Trp Ile Asn Tyr Glu Lys
         130                 135                 140
Glu Thr Arg Leu Glu His Met Ala Lys Leu Met Glu His Val Arg Leu
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Pro Leu Leu Pro Arg Asp Tyr Leu Val Gln Thr Val Glu Glu Glu Ala
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Leu Ile Lys Asn Asn Asn Thr Cys Lys Asp Phe Leu Ile Glu Ala Met
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Lys Tyr His Leu Leu Pro Leu Asp Gln Arg Leu Leu Ile Lys Asn Pro
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Gly Phe Asn Gly Ser Leu Arg Val Arg Thr Val Asp Val Tyr Asp Gly
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